MARYLAND HEALTH CARE COMMISSION

STATE HEALTH CARE EXPENDITURES

Experience from 2000

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Chairman

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ii. PREFACE

PURPOSE OF REPORT

This report was developed to meet the requirement under Health-General Article, §19-1502(c)(7), that directs the Maryland Health Care Commission to annually report on total reimbursement in the state for health care services. A basic mission of the Maryland Health Care Commission (MHCC) is disseminating information that effectively portrays how the health care market in Maryland currently functions. **An essential component in monitoring the performance of the health care system is the level and growth rate of health care spending.** This report provides that information and describes the expenditure patterns that occurred in 2000 for the state's residents and how these patterns differ from 1999.

This report was designed to address the information needs of various stakeholders in the health care system. Payers, policymakers, and providers can use the aggregate and per capita health care expenditure analyses to assess the recent trends in the health care system. The provider/service groups' shares of total expenditures and growth rates can be compared to determine which are the most influential in shaping how health care resources are utilized and which services are increasing (or decreasing) in relative significance. Aggregate and per capita information allows purchasers of health insurance to compare their pattern of health care service use to the state and the region in which they operate, and offers payers and policymakers some results with which to assess their policy decisions.

ORGANIZATION OF REPORT / ISSUES INVESTIGATED

CHAPTER 1: **Statewide Health Care Expenditures**

?? Expenditures by service: How much was spent on health care statewide in 2000? How have expenditures changed from 1999 and for which service are expenditures growing most rapidly? What portion of expenditures is spent on physician services, hospital care, and other services?

?? Expenditures by payer: What portions of expenditures do Medicare, Medicaid, health maintenance organizations and other private insurers pay? How have expenditures by each payer changed from 1999?

?? Expenditures by delivery system**:** What differences exist in the level and distribution of expenditures between HMOs and traditional coverage in both the public and private sectors?

?? Out-of pocket expenditures: How much do patients pay out of their own pockets due to co-payments and deductibles or because they lack insurance coverage for the service? How has this changed from 1999?

CHAPTER 2: **Per Capita Expenditures in Maryland**

?? Overall: What is the average expenditure per person in 2000 and how has it changed from 1999?

?? Expenditures for different insured populations: What are the average expenditures per person for insured services in Medicare, Medicaid, and private insurance compared to 1999? How have out-of-pocket payments for the co-payments, coinsurance and deductibles required by private insurance changed?

CHAPTER 3: **Regional Analysis of Maryland's Health Care Market Place**

?? Regional variation in factors that influence utilization: How do Maryland's different regions differ in health care coverage, economic, demographic, and health status measures?

?? Regional health care spending: Does the proportion of total state spending attributable to each region reflect its share of the population? What other factors affect the share of health care spending in a region? What is the per capita expenditure in each region and how has it changed from 1999?

NOTE

?? This report presents information based on the **health care expenditures of Maryland residents,** not expenditures associated with Maryland providers.

?? **Technical Notes**, at the end of the report, describe the data sources and methods used in the development of these accounts.

?? All years are **calendar years** unless otherwise indicated.

?? Numbers in the text and tables of this report **may not add to totals because of rounding.**

iii. EXECUTIVE SUMMARY

State Health Care Expenditures: Experience from 2000 examines the level, rate of growth, and the pattern of spending in Maryland's large and complex health care market. **Maryland experienced an 8.4 percent rate of growth in total health care expenditures in 2000, up significantly from the 4.6 percent increase in 1999. The 2000 rate of increase was the fastest since the Maryland Health Care Commission began estimating state health care spending in 1994.** [1] The 2000 rate of increase is slightly higher than the 7.4 percent estimated national rate of increase in health care spending from 1999 to 2000 reported by the Centers for Medicare and Medicaid Services (CMS).[2] **Total health care spending for Maryland residents grew in 2000 to $19.4 billion, up from $17.9 billion in 1999. Average per capita expenditures across all residents for all services in 2000 was $3,670, up 7.4 percent from $3,416 in 1999**. Some analysts have predicted that the rate of spending would accelerate; the accuracy of these predictions is reflected in the 2000 SHEA for Maryland and in other national studies.[3] Higher rates of growth are expected to continue for several years due to continuing tight health care labor markets, the explosive growth of new medical technologies, and the migration away from tightly managed care. All of these factors contribute to rising health care costs.

Health care expenditures for Maryland residents, as a share of personal income, are just under 11 percent. This share has remained nearly constant over the last 3 years, as growth in personal income has kept pace with increases in health care expenditures.[4] The slowing economy coupled with accelerating health care spending will likely lead consumers to spend a greater share of personal income on health care in the next several years.

SOURCES OF PAYMENT

Total private expenditures, including expenditures by private third party payers and patient out-of-pocket (OOP) spending, grew at 9.2 percent to over $11 billion in 2000. The private sector, including private payers and patient OOP payments, funds the majority of health expenditures in the state (56.7 percent) accounting for 69 percent of total spending on physician services and 81 percent of all prescription drug expenditures. The government sector, principally the Medicare (21.5 percent) and Medicaid (16.4 percent) programs, accounts for 43 percent of spending, but funds 62 percent of inpatient hospital care, 70 percent of nursing home services (primarily through the Medicaid program), and 58 percent of home health care services.

As shown in Figure ES-1, the growth in spending by private third party payers and patients account for more than 60 percent of the total increase in expenditures for 2000. Maryland's 2000 private payer increase was slightly higher than the 8.4 percent rate of growth reported by CMS for private insurance for the U.S. Overall, Maryland government health care spending grew by 7.4 percent.

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[1] Previous state health expenditure reports were issued by the Health Care Access and Cost Commission, which merged with the Maryland Health Resources Planning Commission in October 1999 to form the MHCC.

[2] Centers for Medicare and Medicaid Services. National Health Care Expenditures. http://www.hcfa.gov/stats/NHE-oact/tables/nhe00.csv (January 2002). For the growth rates reported here, the NHE expenditures are limited to those included in the SHEA, see Chapter 1, footnote 1.

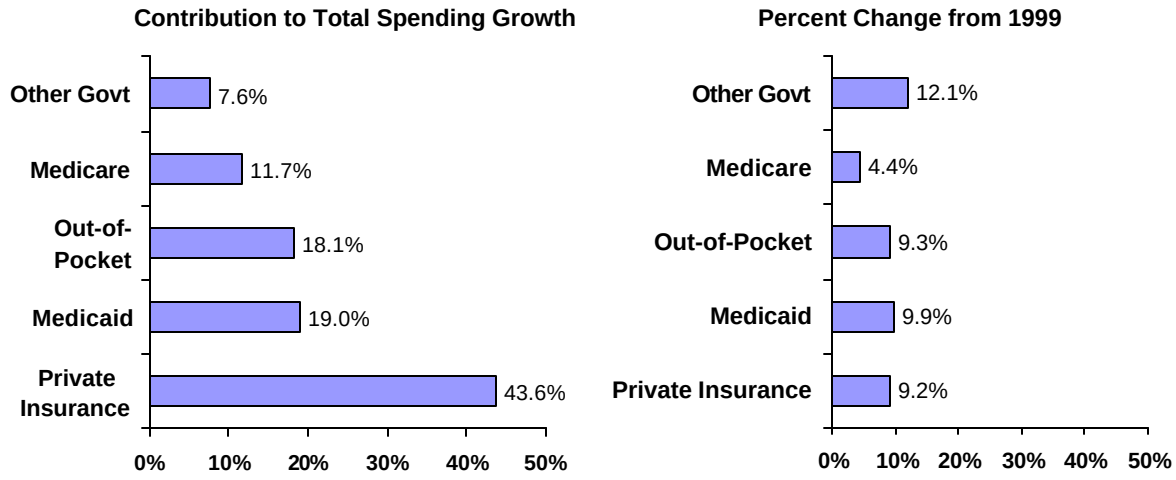
[3] Strunk, Bradley C, Paul B. Ginsburg, and Jon R. Gabel. Tracking health care costs: Hospital care surpasses drugs as the key cost driver. Health Affairs 20(6). Full text is available as a Web Exclusive at www.healthaffairs.org, posted in September 2001.

[4] Personal income for Maryland residents was $167.1 billion in 1999 and $178.5 billion in 2000.

Higher private sector growth rates in 2000 follow the pattern for 1999 and 1998, when the percent increases in private coverage expenditures exceeded the statewide average. The increases in the private sector were in part due to the strong economy throughout much of 2000, which tightened labor markets and made employers willing to absorb a greater share of health care premiums to retain employees. By late 2000, the economy was weakening, although the upward pressure on health care spending continued.

Government spending surged in 2000 after several years of slow growth. Spending in the Medicaid program grew by 9.9 percent, driven by the 7.4 percent growth in enrollment. By comparison, enrollment in private sector plans increased by less than 1 percent. As the economy continues to slow it is possible that the rate of growth in public programs, particularly Medicaid, will keep pace or even exceed the growth rate in the private sector. In 2000, the Medicaid program accounted for about 19 percent of the overall spending increase, significant in that Medicaid accounts for about 16 percent of total expenditures.

Figure ES-1: Sources of Maryland Expenditure Growth By Payer, 1999-2000



SHIFTS IN DELIVERY SYSTEMS A FACTOR IN HIGHER GROWTH

Non-HMO expenditures increased by nearly 9.8 percent in 2000 with an accompanying 3.2 percent gain in enrollment. In the private sector, non-HMO expenditures jumped 11.1 percent and enrollment increased by 3.1 percent. Large payers with extensive provider networks and offering products that increased consumer choice benefited from the transition away from managed care. Several large private payers that operate in Maryland reported revenue growth above 13 percent in 2000.

HMO enrollment continues to decline for all payers, but Medicaid. HMO enrollment declined slightly in the private market, but enrollment and expenditures were down more significantly for seniors under Medicare+Choice. In the private market, purchaser and consumer demand for HMOs continued to slow. In Medicare, the absence of plans is a major cause for the decline in enrollment. Only two commercial health plans, Kaiser Permanente and Elder Health offered Medicare+Choice products in Maryland by the start of 2001. These plans serve the urban areas surrounding the Washington DC and Baltimore Metropolitan Areas. Medicare beneficiaries in

most rural areas of the state do not have access to a Medicare+Choice plan. In contrast to shrinking HMO enrollment elsewhere, the Medicaid program experienced 10 percent growth in HealthChoice expenditures and a 6.5 percent increase in enrollment. However, the HealthChoice program faces similar challenges to Medicare+Choice as commercial HMOs, except for United Health Care, have exited the program.

Key findings for the major health care payer categories are summarized as follows:

?? **Medicare expenditures increased by 4.4 percent in 2000 bringing total Medicare expenditures to $4.2 billion.** In contrast, Medicare increased by 5.6 percent nationally. In Maryland, enrollment in original Medicare grew by 4.6 percent, but Medicare+Choice enrollment declined by 19.4 percent reflecting for-profit commercial HMOs' retreat from the Maryland market. Program-wide, the average per capita spending (including OOP) for a Maryland Medicare beneficiary rose 4.3 percent from $7,071 in 1999 to $7,371 in 2000. Per capita spending under traditional Medicare rose 3.5 percent versus 5.7 percent for Medicare+Choice. The Balanced Budget Act (BBA) of 1997 is the primary reason that the growth in Medicare spending was nearly half of the overall statewide growth rate. The first full year of BBA implementation was 1999 and its effects continued into 2000, although they were somewhat mitigated by the Balanced Budget Refinement Act of 1999.

?? **Medicaid expenditures grew from $2.9 billion to $3.2 billion in 2000.** Medicaid HealthChoice spending increased 6.5 percent. Spending via the traditional program grew even more dramatically at 11.7 percent, despite an enrollment decline of 7.4 percent. Average per capita spending program-wide increased 2.3 percent from $6,835 in 1999 to $6,994 in 2000. The average per capita expenditure for a HealthChoice enrollee in 2000 was $3,311, a reduction of 8.6 percent from 1999 spending levels. Continuing enrollment of relatively healthy children and young women through the Children's Health Insurance Program (CHIP) may have contributed to the decline in per capita spending as these patients are relatively healthy compared to the traditional Medicaid population.

?? **Expenditures by private insurers and other third parties increased by 11.1 percent, but spending by private HMOs increased by 5.9 percent.** Per capita spending for individuals covered by non-HMO products climbed 14.2 percent to $1,996. Per capita spending for HMOs was virtually unchanged from 1999 at approximately $1,985.

?? **Patient out-of-pocket (OOP) spending grew by 9.3 percent.** Increased patient cost-sharing driven by purchasers' desire to hold down their health care costs and increasing numbers of uninsured could push OOP spending higher over the next several years. Growing prescription drug expenses could also drive OOP spending higher. Federal action to provide seniors with prescription drug coverage, which once looked promising, now seems further away. OOP spending accounts for 16.5 percent of total spending, a figure that is essentially unchanged from 1999. **Patient OOP spending covers 41 percent of other professional services and nearly 35 percent of prescription drugs. By contrast, patients pay only 2 percent of inpatient hospitals costs.**

LEADING HEALTH CARE EXPENDITURE SECTORS

All major health care sectors experienced significant growth in 2000. Hospital outpatient care, which increased by 13.7 percent, was the most rapidly growing component of the SHEA. Prescription drugs, which rose 22.2 percent from 1998 to 1999, showed another double-digit increase of 10.9 percent and other professional services increased by a similar rate. By comparison, inpatient hospital care increased most slowly of all at 4.7 percent. Physician services, nursing home care, and home health care services increases ranged from 6.0 to 8.5 percent. Physician services, hospital outpatient care, and prescription drugs account for about 53 percent of the total expenditure growth (Figure ES-2). Use of these services is fueled by an increasing availability of pharmaceutical therapies and explicit efforts on the part of almost all payers to shift the delivery of services into outpatient settings whenever it is clinically appropriate. The relative share of health care dollars spent on inpatient services continues to decline. Hospital inpatient services, although it absorbs 25 percent of spending, accounts for a mere 14.3 percent expenditure growth.

Figure ES-2: Health Service Sector Contributions to Growth

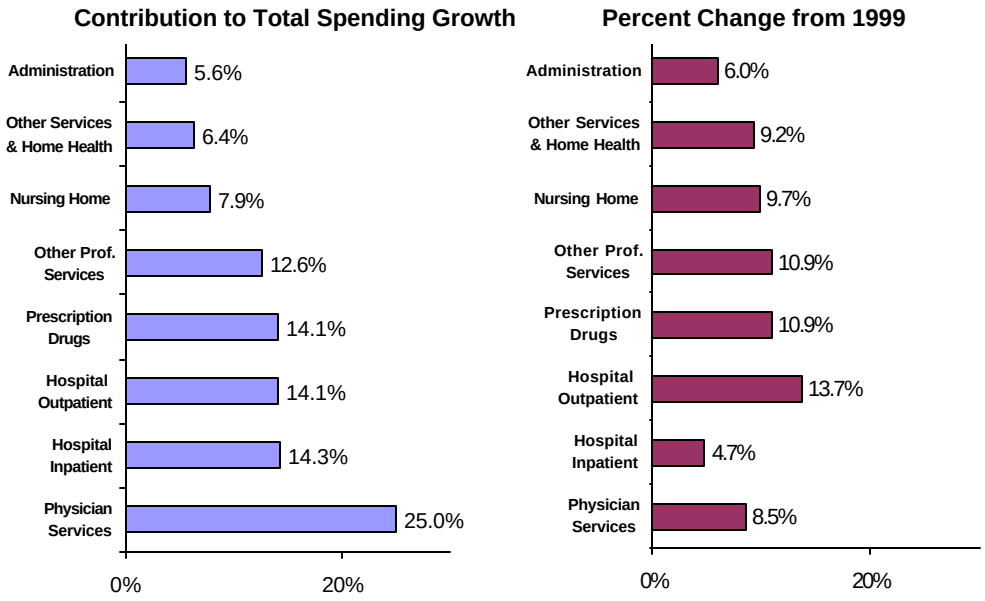


Figure ES-2 dramatizes the widespread nature of the increase in spending for 2000. Because increases were widespread, a sector's contribution to the total increase was consistent with that sector's share of spending. One quarter of the increase in spending is attributable to physician services, a sector that accounts for roughly one-quarter of all spending. Forty percent of the increase is distributed among hospital services, prescription drugs, and other professional services. Together, these factors account for about 55 percent of all spending.

Key findings for leading health care expenditure categories are summarized as follows:

?? **Expenditures for physician services increased by 8.5 percent in 2000 to $4.8 billion.** Increased service volume and greater resource intensity contributed to an overall growth higher than physician price inflation, which was up 1.6 percent nationwide in 2000 as

measured by the Producer Price Index (PPI).[5] Private payers and patient OOP spending account for nearly 70 percent of all payments for physician services.

?? **The hospital inpatient share of services continues to fall and is down from 25.5 percent in 1999. Inpatient hospital services as a share of total health care expenditures have decreased annually since 1995.** Inpatient hospital spending was $4.7 billion, up 4.7 percent, an increase that made this the slowest growing sector. Medicare is the source of 42 percent of inpatient payments.

?? **The rate of growth in prescription drug expenditures slowed to 10.9 percent, compared to the 22.2 percent increase in 1999.** Private payers' move to three-tier benefit packages that offer broader drug choices but shift more costs to consumers appears to have slowed drug-spending growth for some plans. Patient OOP drug payments increased by 8.6 percent, however patients' share of drug expenditures has fallen from 58 percent in 1992 to 35 percent in 2000. Many individuals with prescription drug coverage are buffered from the impact of greater prescription drug spending despite recent cost-saving measures. Patients without prescription coverage, however, pay an increasingly greater differential for drugs as the gap between retail prices and discounted prices negotiated by large purchasers widens.

?? **Spending on outpatient hospital services increased 13.7 percent.** This increase is fueled by incentives for payers and hospitals to shift services to the outpatient setting whenever it is appropriate. The current Health Services Cost Review Commission (HSCRC) methodology to regulate prices for hospital outpatient services does not include any incentives or controls to limit increases in utilization. Volume increases fueled some of the rapid increases in spending on hospital outpatient services.

?? **Spending on other professional health care services, including those provided by non-physician health care providers and organizations, such as ambulatory surgery centers, rose dramatically in 2000.** Private payers and patient OOP expenditures are responsible for nearly 60.0 percent of spending in this category. OOP payments, including non-covered services and patient co-payments/deductibles, account for 41 percent of payments reflecting the limited insurance coverage that exists for many services in this category.

?? **Nursing home expenditures grew by 9.7 percent in 2000.** Medicaid accounts for over half of the spending for this service and patient OOP payments are the source of over one-quarter of the spending in this category. In Maryland, as throughout the nation, alternative sources of long term care, such as assisted living facilities, have increasingly become major sources of competition to traditional comprehensive care nursing centers.[6]

?? **Spending on home health care increased by 8.6 percent in 2000, after a drop of 3.4 percent in 1999**. Medicare spending for this service fell by almost 11 percent in 2000. This decrease was more than offset by rapid growth in Medicaid and private sector spending for this care.

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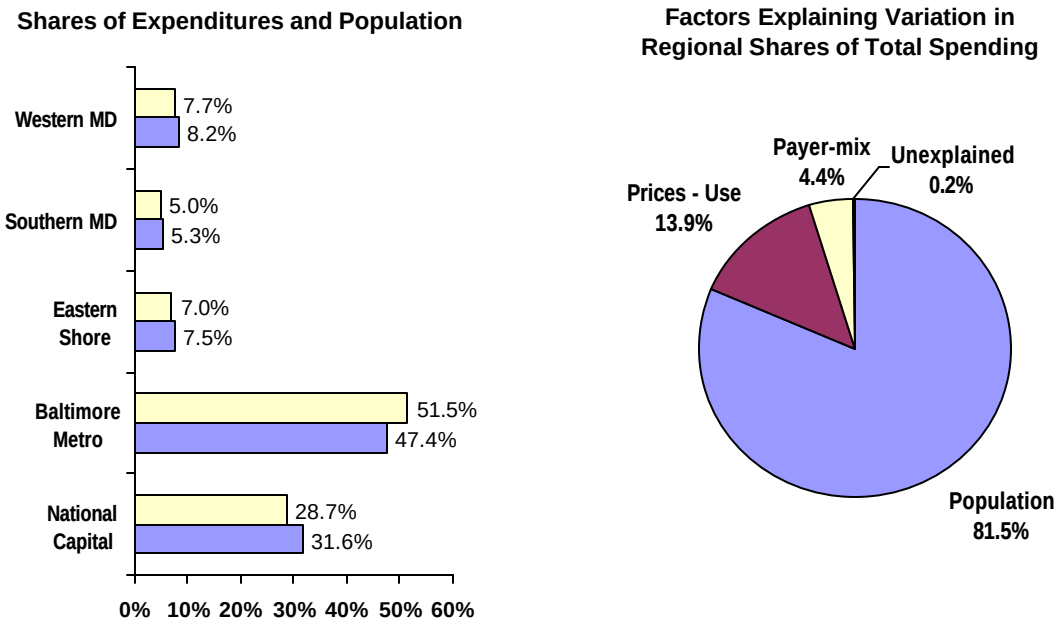
[5] The PPI is preferable to the CPI for measuring price changes in health care because it surveys changes in discounted and negotiated prices paid by third parties as opposed to the CPI which measures changes in prices charged to consumers. However, the sample size for the PPI is too small to produce city-specific estimates.

[6] Assisted living care is not reimbursed under Medicare, Medicaid, or through private insurance. Expenditures for assisted living services are included in the "Other services" category of the SHEA.

REGIONAL HEALTH CARE EXPENDITURES

Significant differences exist between the proportion of the population living in a region and the proportion of state health care expenditures spent on that population due to the complex interaction of demographics, income, underlying health status, and available health resources.[7] The Baltimore Metropolitan Area represents 47.4 percent of state population, but this region accounts for 51.5 percent of expenditures. Compared to 1999, this region expanded its share of state spending although its share of population declined slightly. Conversely, the National Capital Area constitutes 31.6 percent of the population of the state but contributes just 28.7 percent of health care expenditures – the largest relative gap between population and expenditures shares of any region. The less urbanized portions of the state, including Western Maryland, Southern Maryland, and the Eastern Shore, also account for smaller shares of health care spending than their shares of the state population would suggest.

Figure ES-3: Regional Health Care Spending



The pie chart above illustrates the relative influence of several factors that are important in describing the regional portions of statewide health expenditures. The dominant factor is the size of a region's population, which accounts for more than 80 percent of the variation in regional shares of total spending. The differences in spending shares which remain after accounting for each region's share of the populace – illustrated in the bar chart and discussed above – are explained by regional differences in health care prices, the service utilization patterns of the residents, and the proportions of the residents covered by the different types of payers. Regional differences in health care prices

[7] Regional Breakdown: The National Capital Area consists of Montgomery and Prince George's counties; Baltimore consists of Anne Arundel, Baltimore, Carroll, Harford, and Howard counties, and Baltimore City; the Eastern Shore is composed of Caroline, Cecil, Dorchester, Kent, Queen Anne's, Somerset, Talbot, Wicomico, and Worcester counties; Southern Maryland includes Calvert, Charles, and St. Mary's counties; and Western Maryland includes Allegany, Frederick, Garrett, and Washington counties.

and service utilization patterns, as reflected in the Average Annual Per Capita Costs (AAPCC) for Medicare beneficiaries in each region, accounts for about 14 percent of the variation in regional share of total spending, with regional differences in the per capita spending by payers ("payer mix") explaining an additional 4 percent of the variation.

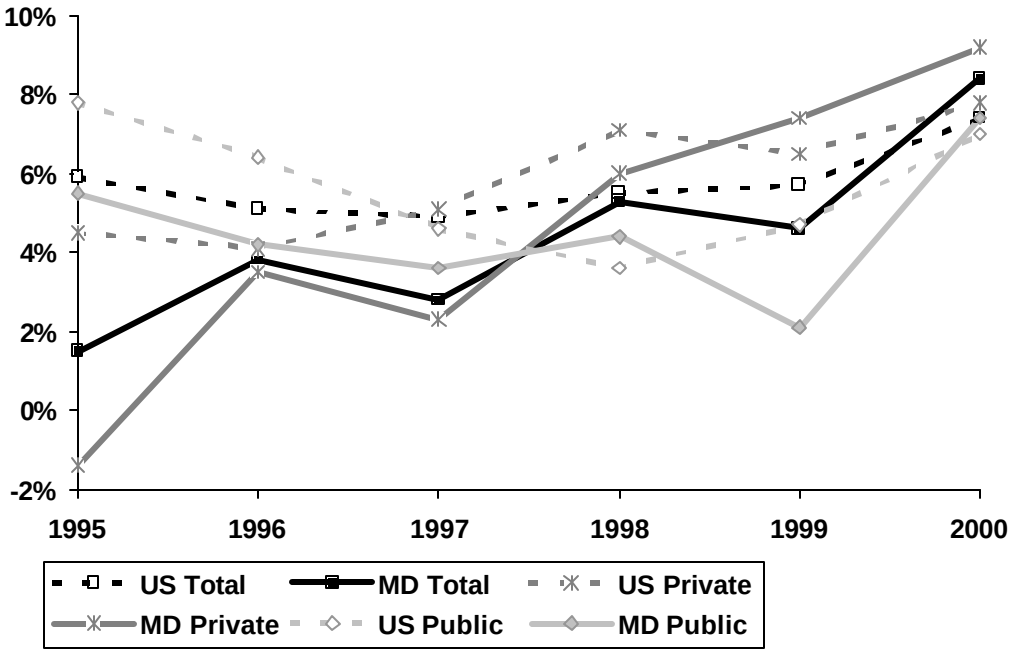
The Baltimore region's percentage of state expenditures primarily reflects its high share of the state's population; its above-expected share of spending results from relatively higher levels of health care utilization coupled with higher prices for care. The region has above-average portions of its residents enrolled in public insurance programs, whose beneficiaries have greater health care needs and use more services than the privately insured. Utilization is also influenced by a concentration of acute health care services that far exceeds what is available in rural regions, and its residents also have higher incomes than their rural counterparts, enabling them – especially those in Medicare – to obtain more care. And the reimbursement rates used by the public payers in the Baltimore region are above the rates paid in rural regions. Conversely, the National Capital Area's below-expected share of spending reflects characteristics that tend to constrain health care spending: below-average percentages of residents enrolled in public insurance programs coupled with having nearly half of its privately insured in HMOs, which have lower expenditures per enrollee than other forms of private insurance coverage.

IMPLICATIONS FOR PURCHASERS AND CONSUMERS

The growth rates for health care spending in 2000 confirm that the competitive forces credited with slowing growth in the 1990s have run out of steam. As shown in Figure ES-4, payers generally have experienced increasing rates of spending growth over the past several years. Although employers have been willing to absorb the higher costs over the last several years, the weakening economy in 2001 may mean that future premium increases will be passed along to enrollees. Recent national estimates show health insurance premiums rose significantly in 2001, up 11.0 percent overall and up 12.5 percent in the small group market.[8] Increases reported for 2002 have been comparable. Federal Employee Health Benefit Program premiums increased by about 13 percent in 2002, while in Maryland, state public employee medical premiums increased about 9 percent and prescription drug premiums grew by 17 percent. These premium increases will inevitably reduce employers' willingness to underwrite health insurance premiums and negatively impact the affordability of insurance for employees. These increases also affect the insurance products that are available, resulting in more narrow benefit packages and increased cost-sharing for employees and consumers.

[8] John Gabel, Larry Levitt, Jeremy Pickreign, et al, "Job-Based Health Insurance in 2001: Inflation Hits Double Digits, Managed Care Retreats, Tracking Health Care Costs: Inflation Is Back", Health Affairs, Vol. 20, No. 5 (November/December 2001): p 181.

FIGURE ES-4: RATES OF INCREASE IN HEALTH CARE SPENDING FOR MARYLAND AND THE UNITED STATES, BY SECTOR, 1995-2000



In the public sector, expenditures are surging at a time of shrinking revenues, diminishing the opportunities for coverage expansions and adding strains to state budgets. Medicaid expenditures in 2000 grew more rapidly than they did for any other payer, as did Medicaid enrollment, demonstrating that public expansions can continue to reach relatively vulnerable populations, thereby reducing the number of uninsured.

1. STATE HEALTH CARE EXPENDITURES

This chapter discusses the fundamental issues addressed by the Maryland State Health Expenditure Accounts (SHEA), that is, what are statewide expenditures by Maryland residents on health care and how have those expenditures changed from 1999? The chapter also examines how those expenditures are distributed by type of service and source of payment.[1] The five major categories used to describe source of payment are:

?? Medicare (subdivided into *Original Medicare* and Medicare managed care, which is now known as *Medicare+Choice*)
?? Medicaid (subdivided into *Traditional Medicaid* and Medicaid managed care, which is known as *HealthChoice*)
?? Other Government (non-Medicare and non-Medicaid) sources, which include state and local governments
?? Private Coverage (subdivided into *Private Insurance*, including indemnity-type arrangements and self-insured groups, and *Private HMOs* [health maintenance organizations])
?? Out-of-Pocket (OOP) spending by individual Maryland residents

Health care expenditures in Maryland rose by 8.4 percent in 2000, increasing to $19.4 billion from $17.9 billion in 1999 (Table 1-1).[2] This rate of increase is substantially higher than the 4.6 percent growth rate reported in the SHEA last year[3] and slightly more than the 7.4 percent increase from 1999 to 2000 in health care spending nationally forecasted by the Centers for Medicare and Medicaid Services.[4] Several factors contribute to these rapid increases in health care expenditures in Maryland and the nation. These include:

?? A strong economy and tight labor markets, which increase the cost of producing health care services and encouraged employers to maintain or even expand health care benefits;

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[1] SHEA payer source categories are generally constructed to be consistent with the National Health Expenditures (NHE) Report with two exceptions: the SHEA excludes private or federal "Other" payers and it defines Medicaid spending as the sum of federal, state, and local government payments for fully covered Medicaid enrollees. Service categories are also comparable to those used in the NHE Report except that the "Other Professional Services" category in the SHEA includes dental services and the "Other Services" category in the SHEA includes vision products and other medical durables. NHE service categories omitted from the SHEA include: (1) (entire categories) other personal health care, government public health activities, research, and construction; (2) nonprescription drugs and medical sundries (NHE combines these products with prescription drugs to make a medical nondurables service category).

[2] The 1999 SHEA estimated that health care spending in Maryland was $19 billion in 1999. Technical improvements made this year reduce the 1999 estimate to $17.9 billion. Two factors account for the difference between this figure and the spending level estimated for 1999 in the 2000 SHEA. One involves routine and relatively modest methodological changes. Each year, the Maryland Health Care Commission (MHCC) attempts to enhance the basic methodology used to develop SHEA estimates. Appropriately, these enhancements are applied to both the current and prior years to ensure accurate representation of year-to-year differences. (The specific enhancements introduced into the 2000 SHEA are discussed later in this report.) However, MHCC also implemented a substantial methodological change this year involving estimated expenditures for individuals with private coverage from insurers and self-funded health plans. While the impact of this change is substantial, it results in a more accurate measure of spending by these individuals.

[3] State of Maryland, Maryland Health Care Commission. *State Health Care Expenditures: Experience from 1999*. January 2001.

[4] Centers for Medicare and Medicaid Services. National Health Expenditure (NHE) Accounts by Type of Service and Source of Funds: Calendar Years 1960–2000. http://www.hcfa.gov/stats/NHE-oact/tables/nhe00.csv (January 2002). The NHE data used to calculate this growth rate were limited to the types of spending reflected in the SHEA, as described in footnote 1.

?? The proliferation of new medical technologies, which are often associated with higher costs *and* more clinical effectiveness; and
?? Declining enrollment in health plans and insurance arrangements that attempt to reduce costs by aggressively managing care in favor of plans that place fewer restrictions on providers and enrollees.

Last year, it was expected that the rate of increase in health care expenditures would grow, both nationally and in Maryland.[5] The accuracy of that prediction is reflected in the 2000 SHEA for Maryland and in other national studies as they relate to the rest of the United States.[6] These new, higher rates of growth are expected to continue for several years.

Table 1-1: Maryland State Health Care Expenditure Accounts: Total Maryland Expenditures ($000s) and Rate of Growth by Service Type, 1999–2000

EXPENDITURE COMPONENTS	GOVERNMENT SECTOR			PRIVATE SECTOR		TOTAL 2000 EXPENDITURES	TOTAL 1999 EXPENDITURES	PERCENT CHANGE 1999–2000
	Medicare	Medicaid	Other Gov't	Private Coverage	Out-of-Pocket			
Total Health Expenditures	**$4,171,729**	**$3,188,138**	**$1,062,035**	**$7,805,361**	**$3,208,406**	**$19,435,669**	**$17,931,054**	**8.4%**
Hospital Services								
Inpatient	2,007,167	712,446	234,151	1,726,485	102,365	4,782,614	4,567,756	4.7
Outpatient	486,735	221,112	49,116	876,131	127,462	1,760,557	1,548,649	13.7
Physician Services	920,800	453,676	124,561	2,680,485	619,020	4,798,542	4,422,703	8.5
Other Professional Services	113,495	301,595	372,078	356,230	795,428	1,938,826	1,748,922	10.9
Prescription Drugs	15,363	303,693	97,120	1,001,634	750,725	2,168,536	1,956,255	10.9
Nursing Home Care	215,785	690,916	29,426	19,651	384,573	1,340,351	1,222,048	9.7
Home Health Care	110,281	301,221	4,061	83,522	213,608	712,693	656,278	8.6
Other Services	119,629	23,974	27,164	46,440	215,225	432,432	392,300	10.2
Admin. & Net Cost of Insurance	182,474	179,504	124,359	1,014,782	-----	1,501,118	1,416,143	6.0

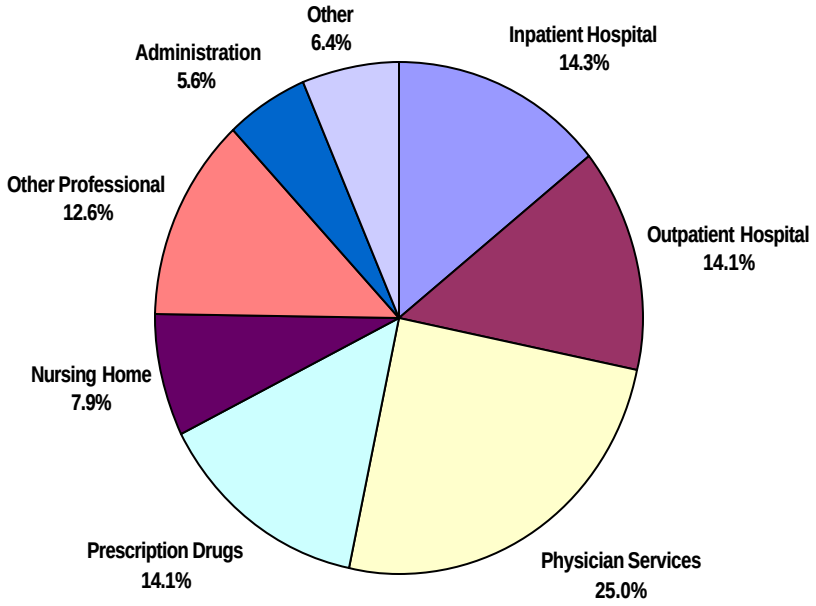
Note: Whenever possible, estimates presented in this table are based upon data obtained directly from Maryland sources. However, the distribution of expenditures by type of service for Medicare+Choice and for OOP spending are based on national data sources. The distribution of Medicaid HealthChoice spending by type of service relies on the distribution of private HMO spending. Such estimates, which reflect reasonable approximations, should be interpreted with some caution.

The 8.4 percent rate of growth in overall statewide spending is the result of relatively rapid increases in spending across all types of health care services. Hospital outpatient services display the largest rates of increase at 13.7 percent. Physician expenditures, which at $4.8 billion is now the largest single component of the SHEA, increased 8.5 percent from 1999 to 2000. This is the

[5] Smith, S., Heffler, S., Freeland, M., and others. The next decade of health spending: A new outlook. *Health Affairs* 18(4), pp. 86–95.
[6] Strunk, Bradley C, Paul B. Ginsburg, and Jon R. Gabel. Tracking health care costs: Hospital care surpasses drugs as the key cost driver. *Health Affairs* 20(6). Full text is available as a *Web Exclusive* at www.healthaffairs.org, posted in September 2001.

lowest growth rate of any service category in the SHEA except for inpatient hospital care. In fact, the overall growth rate would have been even larger if inpatient hospital spending had not increased at a relatively modest rate of 4.7 percent. Yet, even this growth rate was much higher than last year, when an increase of 2.4 percent in inpatient hospital expenditures was reported.

Figure 1-1: Contributions of Specific Services to Statewide Growth Rate, 1999-2000



Note: "Other" includes Home Health Care and Other Services. The statewide growth rate was 8.4 percent from 1999 to 2000.

The best way to understand what factors contribute to increases in statewide spending is to examine the relative contribution of different types of services to the overall growth in statewide health spending (Figure 1-1). **Hospital care, inpatient and outpatient combined, is the largest single source of the increase in health care spending, accounting for more than 28 percent of the overall growth statewide**. Inpatient hospital services, which represents 24.6 percent (Figure 1-2) of all spending in Maryland, contributed 14.3 percent (Figure 1-1) of the increase while outpatient hospital services, which accounts for only 9.1 percent of overall spending, was responsible for 14.1 percent of the overall increase. Taken together, these estimates illustrate a continuing pattern in Maryland and in the rest of the country: fewer hospital admissions and greater use of hospital outpatient facilities. This trend is fueled by hospitals' efforts to establish clinical practices as part of their own facilities and by payers' efforts to shift the delivery of services into outpatient settings whenever it is clinically appropriate.

Other types of services also made substantial contributions to the overall growth rate in 2000. Physicians, who account for one-quarter of the overall increase, are second only to hospitals as a source of increased spending, followed by prescription drugs (14.1 percent) and other professional services (12.6 percent). Even administrative costs were up substantially in 2000, representing 5.6 percent of the overall increase. However, it should be noted that this rate of increase suggests some

ABOUT MARYLAND'S HEALTH CARE EXPENDITURE ACCOUNTS

Data to support these accounts were gathered from many sources, including annual financial reports submitted by payers to the Maryland Insurance Administrator (MIA). Additional information was obtained from the Centers for Medicare and Medicaid Services (CMS) and Maryland's Medicaid Program, administered by the Department of Health and Mental Hygiene (DHMH). Data used to develop the account of other government expenditures were obtained and analyzed from Maryland's Department of Corrections, DHMH state and local program budget documents, DHMH state hospital budget documents, U.S. Department of Veterans Affairs, and the Civilian Health and Medical Program of the Uniformed Services (CHAMPUS). Additionally, data from two state-funded programs, the Pharmacy Assistance Program and the AIDS Insurance Assistance Program, were included in this payer category.

To the extent possible, MHCC collected expenditure data for health services that were rendered in calendar year 2000. Private indemnity insurers and HMOs report expenditures by date of incurred services to the MIA for each calendar year. Some secondary data from payers were only available in forms that did not conform to the 2000 service period. Data on state and county health department health expenditures, including Medicaid, are organized by the date payment was made to the provider and are summarized by state fiscal year (July 1 to June 30). For those expenditures, the average of state fiscal years 2000 and 2001 (which includes the last 6 months of calendar year 2000) was used to estimate calendar year 2000 expenditures. Because these data reflect when payment was made, a small portion of the expenditures reported here for 2000 actually occurred in late 1999. This is balanced somewhat by the fact that some services delivered in late 2000 were not captured because payment was not actually made until 2001.

OOP expenditures are made by insured individuals to pay for co-insurance and deductibles on services and by individuals and philanthropic organizations to pay for noncovered goods and services. Noncovered services include not only those services consumed by individuals without insurance coverage, but also services not covered under health plans of insured individuals. OOP spending does not include spending for premiums that fund health insurance. National OOP expenditure information and its relation to total personal health expenditures were used to estimate Maryland's total OOP spending for 2000.

Enrollment information was gathered for each source of insurance coverage and delivery system to facilitate analysis of spending trends. These data also were used as the basis for determining the denominators for per capita expenditures reported in chapter 2. It is important to note that 45,216 Medicaid enrollees are estimated to also be enrolled in the Medicare Program in 2000. This group receives services from both programs, but they are counted as Medicare enrollees. In addition, an attempt has been made to net their Medicaid spending of the Medicaid totals reported here whenever comparisons are made between spending by Medicare and Medicaid beneficiaries. The total enrollments shown in tables and represented in graphs in this chapter represent the total for the three major sources of insurance coverage. Coverage by CHAMPUS or enrollments in single benefit programs, such as dental insurance, are not included in total enrollment.

Because the development of a state system for reporting health expenditures is an ongoing process, the MHCC continues to refine its methodologies for estimating state health expenditures. At the same time, year-to-year consistency in method and format is required in order to identify trends. To make 1999 to 2000 comparisons with confidence that trends are due to changes in health care delivery and financing, rather than changes in methodology, MHCC has adjusted the 1999 health expenditure accounts using improvements developed for 2000. Where it is not possible to develop 1999 data consistent with 2000 methodologies, no attempt is made to compare the two years.

The 2000 SHEA incorporates the following changes:

?? Medicare Outpatient Hospital indemnity expenditures are estimated from national proportions due to the unavailability of the 2000 outpatient claims data from the CMS.

?? Medicare+Choice expenditures were determined by averaging selected monthly estimates derived from CMS Medicare+Choice expenditure and enrollment data. Slightly different monthly reports were available in 1999 than 2000.

?? Expenditure estimates for the Insurers and Self-Funded plans were refined to include more precise estimates of self-insured business and Federal Employee Health Benefit Plan contributions.

These refinements were incorporated into both the 1999 Revised SHEA (Appendix Table 1B) and 2000 SHEA (Table 1-1 and Appendix Table 1A).

degree of administrative savings, since costs increased more slowly than overall state health care expenditures. Such savings were expected, given recent consolidation among health plans and insurers in Maryland.

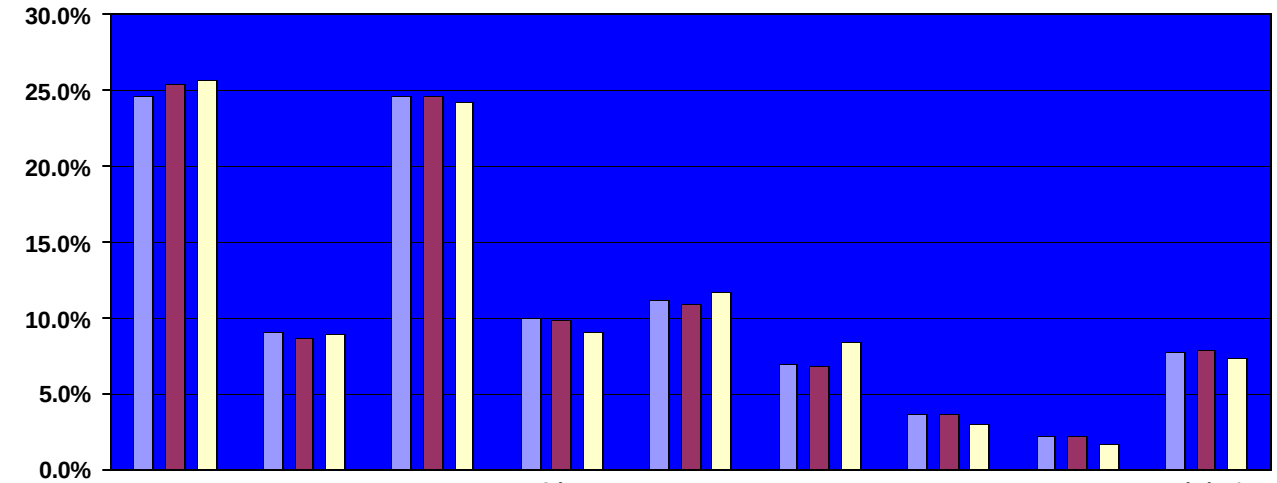
Possible explanations for these increases vary from one service to another. For example, the methodology used by the Health Services Cost Review Commission (HSCRC) to regulate prices for hospital outpatient services in Maryland does not include any incentives or controls to limit increases in utilization. As a result, Maryland has experienced rapid increases in spending on hospital outpatient services, fueled primarily by volume increases. One source of increased volume has been the development of new technologies that enable hospitals to shift services out of inpatient settings into outpatient departments. Another has been a pattern of hospitals acquiring physician practices in an effort to develop integrated delivery systems and to stabilize the flow of patients into the facility.

The situation with prescription drugs is quite different. While spending on prescription drugs was up significantly in 2000 and these increases account for 14.1 percent of overall statewide growth, the rate of increase in prescription drug spending is smaller this year than last. To some extent, the slowing in the rate of growth may reflect a more rigorous use of formularies by various insurers and health plans, increased use of generic equivalents in place of brand name drugs, higher copayments in drug benefits, and other actions that providers and payers have taken in response to the rising cost of pharmaceuticals. Such actions are embodied in the proliferation of triple-option prescription drug benefits under which beneficiaries pay incrementally higher copayments for (1) generic drugs, (2) brand name drugs included on a formulary, and (3) brand name drugs that are not on a formulary.

Figure 1-2 compares the statewide distribution of health spending across service categories in 1999 (SHEA 99) and 2000 (SHEA 00). It also compares the statewide distribution of health spending in 2000 with the national distribution reported in the estimated 2000 NHE Accounts (NHE 00).[8]

Figure 1-2 suggests that the overall distribution of health care spending in the state did not change dramatically from 1999 to 2000, and that Maryland's overall distribution of health care dollars by service category is quite similar to national figures. Generally speaking, Maryland devotes a smaller proportion of all expenditures to inpatient hospital and nursing home services than the nation. On the other hand, Maryland residents appear to spend a slightly greater proportion of their dollars on physician and other professional services. Most of these differences are small enough that they may not be consequential, given differences in the way the SHEA and the national health accounts are constructed.

Figure 1-2: Where Did Maryland's Health Dollar Go in 1999 and 2000?



	Inpatient	Outpatient	Physician Services	Other Professional Services	Prescription Drugs	Nursing Home Care	Home Health Care	Other Services	Admin. & Net Cost of Insurance
SHEA 00	24.6%	9.1%	24.7%	10.0%	11.2%	6.9%	3.7%	2.2%	7.7%
SHEA 99	25.5%	8.6%	24.7%	9.8%	10.9%	6.8%	3.7%	2.2%	7.9%
NHE 00	25.7%	8.9%	24.2%	9.0%	11.7%	8.4%	3.0%	1.7%	7.3%

Note: SHEA 99 incorporates all revisions included in SHEA 00. NHE 00 is taken from source data cited in footnote 8.

This year's 8.4 percent growth in total expenditures is the result of changes in several factors. About one-third of the overall growth is due to general medical inflation. From 1999 to 2000, the Consumer Price Index for medical care was 2.6 percent in the Baltimore/Washington DC Metropolitan Statistical Area (MSA), compared to 3.9 percent nationally.[9] Another 0.9 percent is

[8] Centers for Medicare and Medicaid Services. National Health Expenditure (NHE) Accounts by Type of Service and Source of Funds: Calendar Years 1960–2000. http://www.hcfa.gov/stats/NHE-oact/tables/nhe00.csv (January 2002). Service category distributions are calculated using the national categories that correlate to the SHEA, as noted in footnote 1.

[9] Based on the Consumer Price Index for all urban consumers (CPI-U) as compiled by the Bureau of Labor Statistics (BLS). BLS provides a convenient reporting mechanism for the CPI-U and its components at http://www.bls.gov/cpi/. The Producer Price Index (PPI) offers an alternative measure of medical care inflation, but this index is only available nationally. For reference purposes, the PPI increased 2.6 percent from 1999 to 2000 across the nation.

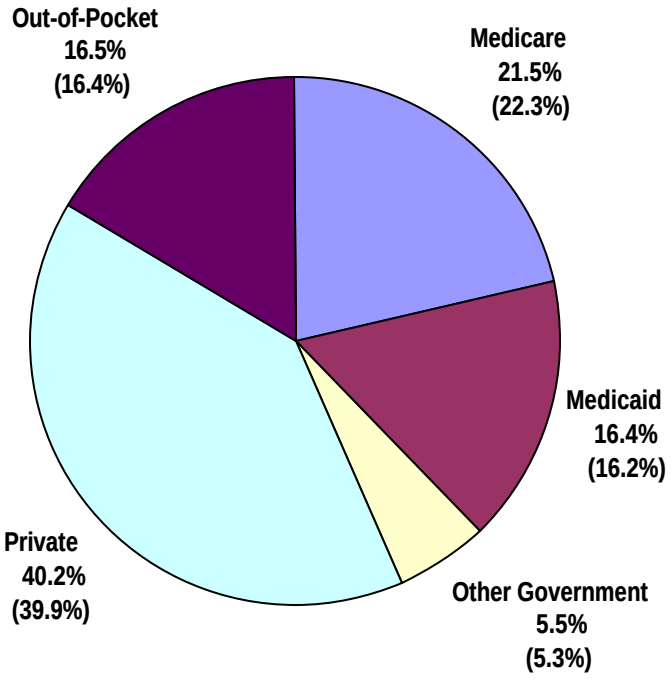
attributable to population growth. The remaining increase (4.9 percent) is due to a variety of factors that most likely include increased enrollment in government programs, increases in the demand for services associated with an aging population, and less aggressive use of managed care techniques. Rising discretionary spending, driven by growing personal income in a strong economy, may also contribute to expenditure growth.

EXPENDITURES BY SOURCE OF PAYMENT

This section describes the distribution of total expenditures by source of payment, looking at total dollar amounts and percentages of the total health care expenditures, as well as the distribution of payer expenditures among the various services. It focuses specifically on the portion of expenditures paid by Medicare, Medicaid, and private health plans. This section also describes how expenditure patterns have changed from 1999 and how expenditures vary by type of service and source of coverage.

The private sector accounts for the majority of health care spending in Maryland, and this proportion actually increased from 1999 to 2000 (Figure 1-3). Private coverage accounts for 40.2 percent of statewide expenditures in 2000, up only slightly from 39.9 percent in 1999. Out-of-pocket spending, which accounts for the balance of the private sector, represents 16.5 percent of total spending, which is also up slightly from 1999. Overall the private sector represents 56.7 percent of health expenditures in Maryland in 2000, compared to 56.3 percent in 1999. Medicare—the largest government payer—funded 21.5 percent of all expenditures in 2000, while Medicaid paid for 16.4 percent of expenditures. The Medicare figure is down from 1999, when Medicare accounted for 22.3 percent of spending. In contrast, the share of spending attributable to Medicaid in 2000 was up slightly from 16.2 percent in 1999.

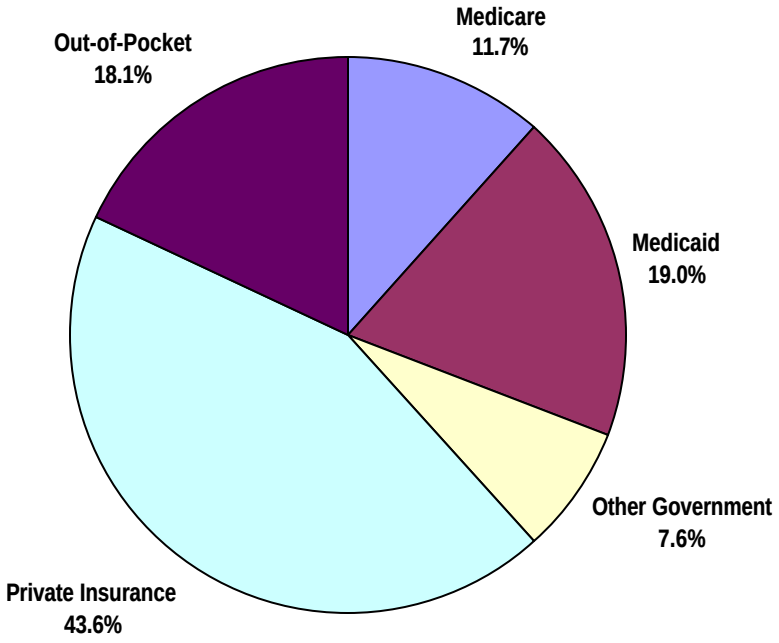
Figure 1-3: Where Did the Maryland Health Dollar Come from in 2000 (1999)?



Note: Overall statewide spending increased $1,504,615,000 or 8.4 percent in 2000.

Much of the growth in statewide spending (43.6 percent) is the result of spending by private insurers, self-funded plans, and private HMOs, as illustrated in Figure 1-4. The leading role played by private third parties clearly reflects the strong economy in 2000, which tends to increase the number of people with privately sponsored coverage and makes it possible for employers to offer more generous benefit packages.[10] The Medicaid program, which accounts for 19 percent of the growth in statewide spending, is the second most important factor in explaining the growth in Maryland expenditures. Medicaid is followed closely by OOP spending, which represents 18.1 percent of this growth. Because private insurance typically involves deductibles and co-payments, it should not be surprising to find that increases in payments by private third parties correlate with increases in payment by the individuals whom they cover.

Figure 1-4: Composition of Statewide Growth by Source of Payment, 1999-2000,



Note: Overall statewide spending increased $1,504,615,000 or 8.4 percent in 2000.

As a group, public payers experienced a lower rate of growth in health expenditures in 2000 than private payers, as reported in Table 1-2. Aggregate government expenditures increased 7.4 percent, while private expenditures increased 9.2 percent. These growth rates continue the pattern from last year, in which the growth rate for expenditures with private coverage exceeded the statewide average and the growth of public spending. However, the growth in spending within the public sector varies considerably by program. The growth rate associated with Medicare spending, at 4.4 percent, is especially modest and reflects many of the recent legislative and regulatory actions

[10] From 1999 to 2000, personal income climbed from $167.1 billion to $178.5 billion, an increase of 6.7 percent. Bureau of Economic Analysis, U.S. Department of Commerce, Regional Accounts Data, available at Web site: http://www.bea.doc.gov/bea/regional/spi/pcpi.htm., December 2001.

that have affected that program.[11] In contrast, expenditures associated with the Maryland Medicaid program grew 9.9 percent, significantly more than private payers, and other government spending rose 12.1 percent, more than any other pay source identified in the SHEA.

Table 1-2: Maryland's Health Expenditures ($000s): Government and Private Sector, 1999–2000

	GOVERNMENT SECTOR				PRIVATE SECTOR			TOTAL
	Medicare	Medicaid	Other Gov't	Total Gov't	Private Coverage	Out-of-Pocket	Total Private	
1999	$3,995,824	$2,901,556	$947,756	$7,845,135	$7,149,245	$2,936,674	$10,085,918	$17,931,054
2000	4,171,729	3,188,138	1,062,035	8,421,903	7,805,361	3,208,406	11,013,767	19,435,669
% Change 1999–2000	4.4%	9.9%	12.1%	7.4%	9.2%	9.3%	9.2%	8.4%

Private sector spending in Maryland continued to expand in 2000, in both absolute terms and in relation to public health care program spending. As shown in Table 1-3, the growth in spending by private third parties increased rapidly from 1999 to 2000, substantially exceeding the rise in spending by Medicare. The relative increase in private spending in Maryland is consistent with the national trend in which the private-payer growth rate exceeded the rate of increase overall, and the private sector share of total spending grew from about 57 percent in 1999 to 58 percent in 2000. Medicaid spending increased at roughly the same rate as that of the private sector, in both Maryland and the U.S, respectively. These estimates are consistent with the notion that a strong economy and low unemployment, both nationally and in Maryland, contribute to expanding private coverage. The healthy economy also produced higher tax revenues, which funded an expansion of the Medicaid program in 2000 and contributed to the growth in Medicaid spending. With the economic recession and increased unemployment in 2001, it is likely that the rate of increase in private health care spending will moderate. However, increased unemployment will exert an upward pressure on Medicaid spending.[12]

Table 1-3: Estimated Rates of Change in Spending, by Source of Payment, in Maryland and the United States, 1999–2000

	GOVERNMENT SECTOR		PRIVATE SECTOR	TOTAL
	Medicare	Medicaid	Private Coverage	All Sources of Payment
Maryland	4.4%	9.9%	9.2%	8.4%
United States	5.6	8.8	8.4	7.4

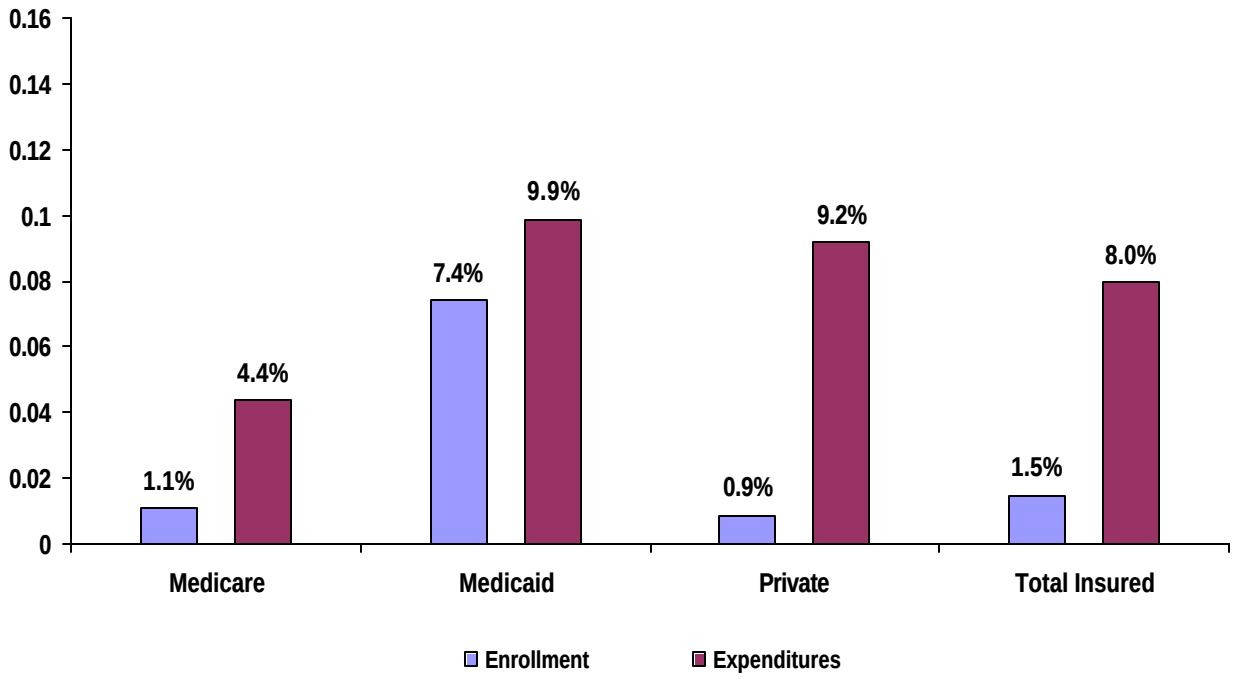
Note: National growth rates are for the National Health Expenditure Accounts, see footnote 4.

[11] The Balanced Budget Act of 1997 (BBA) was designed, among other things, to limit expenditures under federally financed health care programs such as Medicare and Medicaid. The first full year of BBA implementation was 1999 and its effects continued into 2000, although they were somewhat mitigated by the Balanced Budget Refinement Act of 1999. The BBA is arguably the primary reason that the growth in Medicare spending was nearly half of the overall statewide growth rate.

[12] The dynamics of the individual markets is another factor that affects the growth rates shown in Table 1-3. As discussed later in this chapter, for example, 2000 was marked by important changes in the extent of HMO coverage among the three major payer groups (Medicare, Medicaid, private coverage). The movement of enrollees between HMO and non-HMO forms of coverage, and the reasons that such movements take place, help to explain the differential rates of growth shown in Table 1-3.

The number of people with Medicare or private coverage increased modestly from 1999 to 2000, while Medicaid enrollment grew substantially during the same period. As illustrated in Figure 1-5, Medicare beneficiaries and the number of individuals with private coverage grew approximately 1 percent in 2000. In contrast, the Medicaid population grew 7.4 percent according to data provided by the Maryland DHMH, which administers the state Medicaid program. **However, changes in enrollment do not necessarily correlate with changes in spending.** Private insurance had a large increase in expenditures (9.2 percent), despite its relatively small increase in enrollment. Medicare spending increased only 4.4 percent even though its increase in enrollment is similar to that of private insurance. Medicaid spending rose 9.9 percent, which is a relatively slow rate given its 7.4 percent increase in enrollment. Differences between the rates of growth in enrollment and spending are due to a number of factors, including changes in the nature of the benefits offered by different payers and the extent to which payers rely on managed care or HMO-type arrangements to deliver services.

Figure 1-5: Percent Change in Total Enrollment and Expenditures by Source of Coverage: 1999–2000



EXPENDITURES BY SOURCE OF PAYMENT AND TYPE OF SERVICE

This section describes the distribution of expenditures for various services by source of payment. It illustrates how expenditure distributions relate to differences in the populations covered by specific payers and to differences in benefit packages.

Government programs spend proportionately more on inpatient hospital and long-term care (nursing home and home health services), while private plans spend proportionately more on physician services and prescription drugs (Table 1-4). While the distribution of dollars spent on various service categories varies widely by payer, these variations reflect differences across payers in the structure of their benefit packages and in the health care needs of the population that they serve. For example, as the only payer in either the government or private sector that offers more than post-acute coverage for nursing home services, Medicaid spends a much larger share of its dollars on long-term care services than any other payer. A substantial portion (21.7 percent) of all Medicaid expenditures are for nursing home care, while private third parties spend less than 1 percent of their dollars on nursing home care. Similarly, many private-sector plans offer prescription drug coverage, whereas the original Medicare (non-HMO) benefit package has no prescription drug benefits. For this reason, 12.8 percent of spending under private coverage is on prescription drugs. Government programs spend considerably less on prescriptions (0.4 percent overall for Medicare and 9.5 percent for Medicaid).[13]

Table 1-4: Distribution of Maryland Health Expenditures by Source of Payment, 2000

Expenditure Components	Medicare	Medicaid	Other Gov't	Private Coverage	Total
Total Expenditures ($$)	**$4,171,729**	**$3,188,138**	**$1,062,035**	**$7,805,361**	**$19,435,669**
Hospital Services					
Inpatient	48.1	22.3	22.0	22.1	24.6
Outpatient	11.7	6.9	4.6	11.2	9.1
Physician Services	22.1	14.2	11.7	34.3	24.7
Other Professional Services	2.7	9.5	35.0	4.6	10.0
Prescription Drugs	0.4	9.5	9.1	12.8	11.2
Nursing Home Care	5.2	21.7	2.8	0.3	6.9
Home Health Care	2.6	9.4	0.4	1.1	3.7
Other Services	2.9	0.8	2.6	0.6	2.2
Admin. & Net Cost of Insurance	4.4	5.6	11.7	13.0	7.7
Total All Services	**100.0%**	**100.0%**	**100.0%**	**100.0%**	**100.0%**

Note: The total column includes out-of-pocket expenditures that are not shown separately.

[13] The lower percentage of Medicaid expenditures on prescription drugs is partly due to the diluting effect of the higher percentages of Medicaid expenditures for nursing home and home health care.

One factor that complicates the construction and interpretation of private expenditure data in the SHEA for both HMOs and non-HMOs is the practice of "carving out" specific services, such as mental health and prescription drugs. The SHEA estimates of private expenditures are based on submissions to the MIA by private insurance companies and by HMOs. To the extent that employers or other groups purchase specialty services directly from providers, the expenditures reported in the SHEA could understate actual spending, because such dollars would not flow through insurance arrangements within the jurisdiction of the MIA. A similar problem involves large groups that choose to self-insure for specific services while providing insurance or health plan coverage for the remainder of their health benefits program.

Table 1-5 shows how total expenditures and expenditures on services are distributed across payers. Comparing the proportion of total expenditures in the state that are covered by a particular payer to that same payer's proportion for a particular service indicates specific services where a payer's spending is out of proportion to its overall share of expenditures. Benefit package design and characteristics of the covered population both influence the proportions of spending, as discussed below.

Table 1-5: Government and Private Expenditures as a Percent of Total Service Category Expenditures, 2000

EXPENDITURE COMPONENTS	GOVERNMENT SECTOR				PRIVATE SECTOR			TOTAL
	Medicare	Medicaid	Other Gov't	Total Gov't	Private Coverage	Out-of-Pocket	Total Private	
Total Health Expenditures	**21.5%**	**16.4%**	**5.5%**	**43.3%**	**40.2%**	**16.5%**	**56.7%**	**100.0%**
Hospital Services								
Inpatient	42.0	14.9	4.9	61.8	36.1	2.1	38.2	100.0
Outpatient	27.6	12.6	2.8	43.0	49.8	7.2	57.0	100.0
Physician Services	19.2	9.5	2.6	31.2	55.9	12.9	68.8	100.0
Other Professional Services	5.9	15.6	19.2	40.6	18.4	41.0	59.4	100.0
Prescription Drugs	0.7	14.0	4.5	19.2	46.2	34.6	80.8	100.0
Nursing Home Care	16.1	51.5	2.2	69.8	1.5	28.7	30.2	100.0
Home Health Care	15.5	42.3	0.6	58.3	11.7	30.0	41.7	100.0
Other Services	27.7	5.5	6.3	39.5	10.7	49.8	60.5	100.0
Admin. & Net Cost of Insurance	12.2	12.0	8.3	32.4	67.6	-----	67.6	100.0

Note: Out-of-pocket expenditures (OOP) in Maryland are calculated on a service-specific basis by applying estimates of OOP as a percent of total spending by service to estimates of spending by all other sources. The NHE projections for 2000 were used to estimate OOP as a percent of total spending, with the NHE limited to SHEA payer and service categories.

The government sector funds only 43.3 percent of all expenditures in the state (Table 1-5). However, it pays the majority of expenditures for hospital inpatient care (61.8 percent), nursing home care (69.8 percent), and home health care (58.3 percent). The public share of inpatient expenditures is driven largely by the Medicare population, which tends to use proportionately more hospital care

than younger populations. In particular, while Medicare funds just over one-fifth of all state health expenditures (21.5 percent), it pays for 42.0 percent of all inpatient services. Similarly, although Medicaid represents only 16.4 percent of total Maryland expenditures, it pays for more than half of all nursing home care and a large portion of home health expenditures in the state (51.5 percent and 42.3 percent, respectively). Medicaid pays proportionately less than its total share of expenditures for hospital outpatient, physician, other professional services, and prescription drugs.

The private sector funds the majority of health expenditures in the state (56.7 percent). It accounts for almost 70 percent of all spending on physician services (68.8 percent) and 80.8 percent of all prescription drug expenditures. Within the private sector, private coverage specifically pays for 40.2 percent of all state health expenditures, but it accounts for half (49.8 percent) of all hospital outpatient spending, 55.9 percent of all physician services, and 46.2 percent of the expenditures on prescription drugs. Table 1-5 also illustrates the fact that private coverage tends to be more costly to administer than public programs. While private coverage represents 40.2 percent of all covered expenditures, it accounts for more than two-thirds (67.6 percent) of all expenses associated with administration and the net costs of insurance.

Table 1-5 also shows that OOP expenditures represent 16.5 percent of all spending in Maryland and that the OOP rate varies widely across services.[14] OOP expenditures represent funds spent by residents for co-payments, for coinsurance and deductibles, and for services that are not covered by a health plan. This category also contains expenditures by the uninsured. Such expenditures exist for two reasons. One is the desire on the part of health plans and insurers to create financial incentives for their enrollees that encourage them to use health care services in an appropriate and efficient manner. The other reason involves gaps in insurance coverage, that is, some individuals have no insurance whatsoever while others have policies that contain specific exclusions or limitations on the extent of coverage.[15]

The pattern of OOP spending in Table 1-5 reflects variations in insurance coverage that exist in both Maryland and the rest of the nation. OOP spending is a small portion of expenditures for hospital services, because health plans and insurers typically provide comprehensive coverage for hospital care. The same is also true for physician services, where OOP represents 12.9 percent of spending. At the other extreme, OOP accounts for 41.0 percent of spending on other professional services, 34.6 percent of spending on prescription drugs, and about 30 percent of spending each on nursing home and home health services. Each of these categories involves services where insurance coverage tends to be limited, with substantial requirements for cost-sharing on the part of patients.

[14] In evaluating the OOP estimates presented here, it is important to recognize limitations associated with the SHEA methodology. In most instances, MHCC is unable to measure OOP spending directly for Maryland residents. Instead, we estimate the percent of spending for specific services paid out of pocket from National Health Accounts. (See footnote 3.) National, service-specific OOP rates are then applied to Maryland service-specific spending levels. This means that the rate of growth in estimated OOP spending is driven by two factors: national changes in the portion of services that are paid out-of-pocket and changes in the level of spending on health care services in Maryland.

[15] The 2000 SHEA makes no effort to distinguish OOP spending on uninsured services from OOP spending attributable to cost-sharing arrangements because of methodological difficulties in separating the two for individual sources of payment.

Out-of-Pocket Costs and the Uninsured

Out-of-pocket (OOP) costs are payments made directly by consumers to health care providers. For those with insurance, OOP costs consist mainly of deductibles and coinsurance for covered services, but may also include payment for services and items not covered by their insurance policies. For the uninsured, OOP spending is the principal source of payment for health care. This is supplemented by special state or local programs for indigent care, workers' compensation, or other payment sources when applicable.

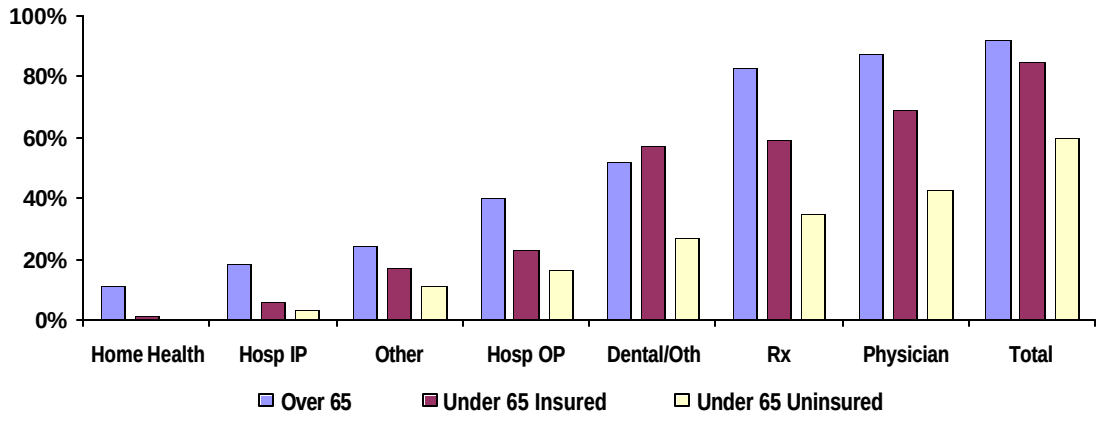
Nationally, OOP expenditures account for over 15 percent of all health care spending.[i] This percentage may grow as health care costs and insurance premiums rise and economic growth slackens. Persons with employer-sponsored insurance are facing higher deductibles and coinsurance as employers try to hold down premium increases.[ii] At the same time, slack job markets and rapidly rising premiums tend to increase the number of uninsured persons.[iii] For retirees, rapidly rising health care costs have resulted in reduced availability and increased cost sharing for both employer-sponsored retirement benefits and Medicare+Choice plans.[iv]

Demographics of the uninsured population.
A recent in-depth study by the Institute of Medicine (IOM) provides a definitive characterization of uninsured Americans.[v] Virtually everyone over age 65 has some health insurance, so studies focus on the under-65 population. The typical uninsured person is a young adult working at a low-wage job. Over 80 percent of the uninsured are in families with at least one wage-r earner, yet two-thirds live in low-income families (defined as income under twice the federal poverty level). About one-fifth of the uninsured were offered insurance at their placeof employment but turned it down, with poorer workers much more likely to refuse the offer of health insurance.[vi]

OOP Spending by the Insured and Uninsured
This analysis looks at acute care OOP spending using the Medical Expenditures Panel Survey (MEPS) collected by the Agency for Healthcare Research and Quality (AHRQ). MEPS contains information for a nationally-representative sample of the non-institutionalized population that can be used to analyze typical OOP payments for insured and uninsured individuals.[vii] All respondents in the Northeast were used to proxy typical spending patterns in Maryland. Costs of nursing home or other institutional care are excluded. The 1997 MEPS database (the most recent available) contains detailed cost data on more than 6,000 residents of the Northeast, of which about 10 percent (12 percent of the under-65 population) were identified as uninsured throughout the year. This sample is small but adequate to show key differences between the insured and uninsured populations. The MEPS Northeast uninsured estimates closely correspond to average estimates of the uninsured derived for Maryland from the 2000 and 2001 Current Population Survey.

Any Use of Care
Uninsured persons are less likely than others to use all types of health care services (Figure 1). About 60 percent of the uninsured had contact with the health care system, compared to 85 percent of under-65 insured persons. For individual service categories, use of some care by the uninsured ranges from half to about two-thirds of the level for the under-65 insured population.

Figure 1: Percent of Population Using Care



The largest relative gaps occurs for inpatient and dental/other professional care. The smallest relative gap involves hospital outpatient services, including emergency room care.

Costs by Type of Service

For the typical person, the fraction of annual health care expenditures paid directly out of pocket varies by service (Figure 2). Regardless of insurance status, OOP payments are typically a negligible portion of hospital inpatient facility reimbursements. For all other types of care, uninsured persons' OOP payments make up 60 to 90 percent of total reimbursements for their care. (Workman's compensation, special state/local programs, and other sources account for the remainder of payments.) For the insured population, the high OOP percentage for prescription drugs and other medical goods (e.g., eyeglasses) reflects lack of coverage and (typically) higher coinsurance rates. Lower OOP shares for the insured's physician and hospital outpatient care reflect more complete coverage and limited coinsurance[viii]

The elderly pay the highest dollar amounts in total OOP spending (Figure 3). Median spending shown here gives the 1997 annual OOP payment by the typical person using each type of service.[ix] For the elderly, median annual OOP for those. obtaining any care was about $470. Median OOP prescription drug costs exceeded $200 per person using prescription drugs. For the under-65 population, median annual OOP payments for the uninsured were slightly higher than for insured service users. Among those obtaining any care, the uninsured spent about one-fifth more out-of pocket than did the insured.

Figure 2: Average Per Person Out-of-Pocket Percentage of Total Spending, by Service, Across All Persons

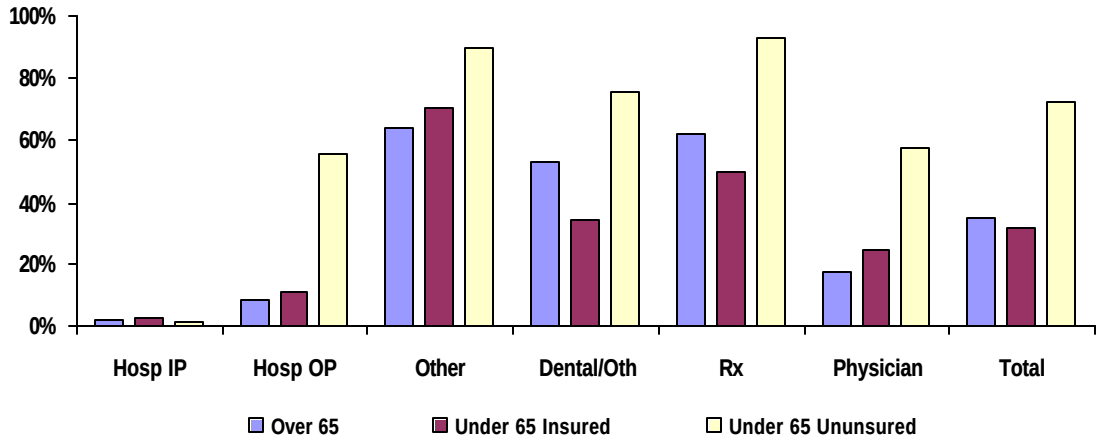
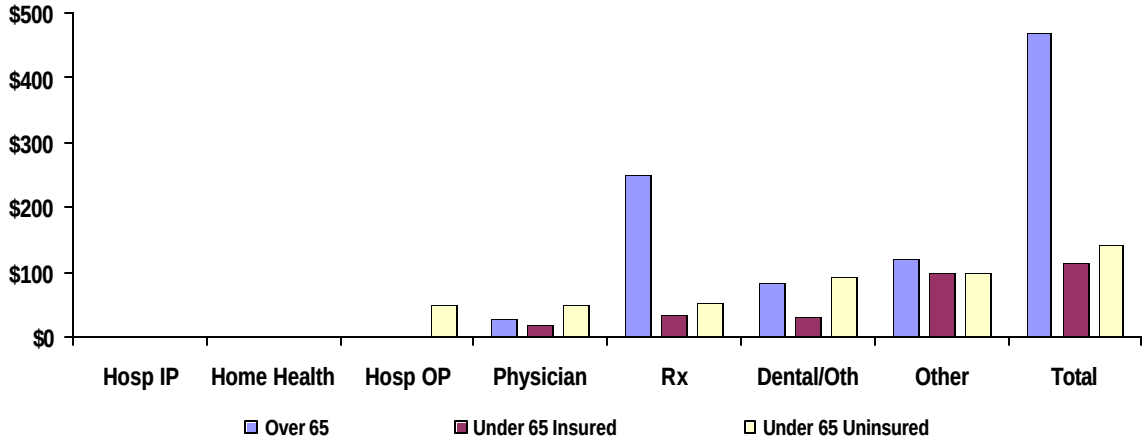


Figure 3: Median Out-of-Pocket Per User of the Service



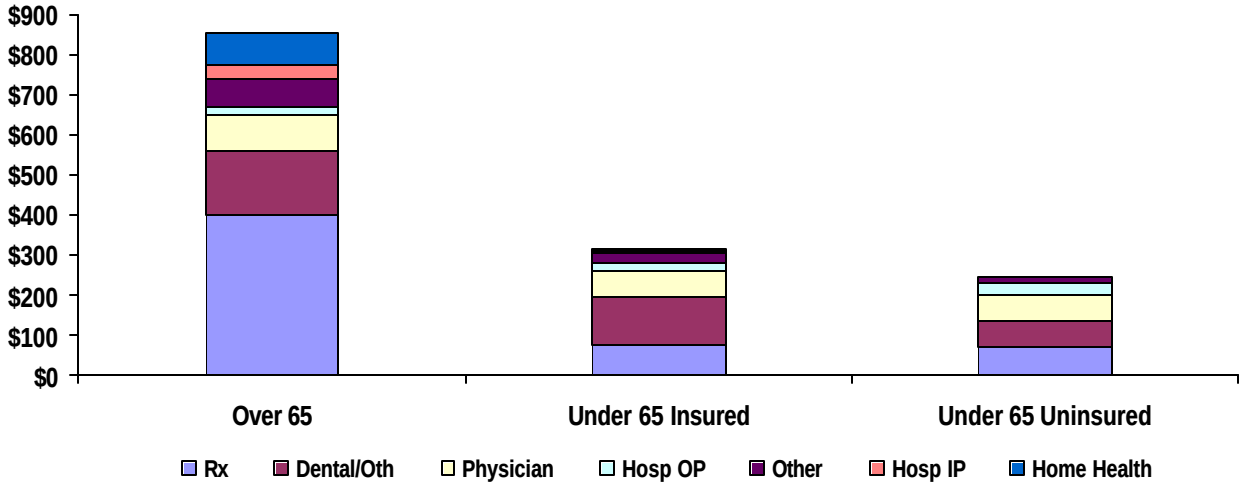
Sources of Out-of-Pocket Costs

The various categories of service make different contributions to each population's total per-capita OOP spending (Figure 4).[x] For the elderly, drug spending is the main driver behind OOP costs for acute care. For the non-elderly uninsured, prescription drugs, dental and other professional services, and physician services contribute equally to aggregate OOP burden, and together account for about 80 percent of costs for that population. Inpatient care is not associated with a large aggregate OOP burden for the uninsured because the uninsured have few admissions, and because hospitals often write off such admissions as charity care or bad debt. Most inpatient stays for uninsured MEPS respondents resulted in no payment of any kind.[xi]

Costs Relative to Income

The share of family income devoted to OOP costs roughly parallels the median spending data. Elderly families have the highest fraction of income devoted to acute-care OOP costs (4.7 percent). This reflects both high OOP costs and low average family income. For the under-65 population, aggregate OOP costs amounted to about 2.2 percent of pre-tax income for uninsured families, versus 1.5 percent of pre-tax family income for those with insurance.[xii] This is mainly the result of lower average income among families without health insurance.

Figure 4: Average OOP Spent For Each Type of Service, Across All Persons



[i] This estimate is from the 1999 National Health Expenditure Accounts at www.hcfa.gov/stats/nhe-oact/tables/chart.htm

[ii] Gabel, J, L Levitt, J Pickreign, et al., "Job-Based Health Insurance In 2001: Inflation Hits Double Digits, Managed Care Retreats", Health Affairs 20(5), September-October 2001, pp. 180-186.

[iii] Gilmer, T, R Kronick, "Calm Before the Storm: Expected Increase in the Number of Uninsured Americans," *Health Affairs* 20(6), November-December 2001, pp 207-210.

[iv] Gabel, Ibid, and Gold, M "Medicare+Choice: An Interim Report Card", *Health Affairs* 20(4), July-August 2001, pp. 120-38.

[v] Institute of Medicine, *Coverage Matters: Insurance and Health Care*, Committee on the Consequences of Uninsurance, Board on Health Care Services, Institute of Medicine (Washington, DC: National Academy Press, 2001)

[vi] Cunningham, P, E Schaefer, C Hogan, "Who Declines Employer-Sponsored Health Insurance and Is Uninsured?", *Issue Brief No. 22*, October 1999 (Washington, DC: Center for Studying Health Systems Change).

[vii] MEPS is used here because the data used for the SHEA cannot separately identify the uninsured.

[viii] Percentages were calculated for each person, then averaged, which weights low and high spending equally.

[ix] The medians for each category of service reflect only the persons who used that service at some time in 1997.

[x] Earlier figures showed spending by the typical (median) person. This figure shows average (mean) spending per capita. Means greatly exceed the medians because a few high-cost cases contribute heavily to total spending.

[xi] For charity care, bad debt, or other instances where service was rendered by no payment made, the MEPS data record charges but no payments.

[xii] A similar calculation from the Bureau of Labor Statistics 1997 Consumer Expenditure Survey shows that OOP spending are 1.7 percent of pre-tax family income for the under-65 population, close to estimates obtained from MEPS.

COMPARISONS BETWEEN HMOs AND OTHER NON-HMO THIRD PARTY

Unlike more traditional insurance arrangements, HMOs provide an administrative process that is designed to improve clinical decision making. Combined with financial incentives that encourage the efficient delivery of services, the growth of HMOs in the previous decade represented a significant change in the organization and financing of health care in Maryland. More recently, HMOs have begun to lose enrollment. For this reason, it is important to consider what differences exist in the level and distribution of expenditures by type of delivery system, how these differences have changed over time, and the implications of having less managed care in the future.

The expenditure patterns shown in Table 1-6 illustrate statewide trends in HMO arrangements. In particular, managed care continued the pattern of decline that first appeared in 1999. Medicare HMO (Medicare+Choice) expenditures fell more than 15 percent from 1999 to 2000, while expenditures by Medicare beneficiaries with the original type of fee-for-service coverage increased 7.1 percent. In contrast, Medicare+Choice expenditures were reported in the SHEA only two years ago to have increased more than 50 percent, while spending under the original Medicare structure was essentially flat. In the Medicaid program, managed care (HMO) expenditures rose 6.5 percent from 1999 to 2000, while spending by traditional Medicaid beneficiaries rose 11.7 percent. This is the first year in the last three in which Medicaid fee-for-service expenditures increased. In the previous two years, Maryland implemented its HealthChoice program under which large numbers of Medicaid beneficiaries were enrolled in managed care plans. Now that this implementation is complete, the data indicate substantial increases in health care spending among all Medicaid beneficiaries, regardless of whether they are enrolled in HealthChoice.

Table 1-6: Total Maryland Health Expenditure ($000s) by Delivery System and Source of Coverage, 1999–2000

	HMO				NON-HMO THIRD PARTY			
	Medicare	Medicaid	Private	Total	Medicare	Medicaid	Private	Total
1999	$482,068	$999,994	$2,656,103	$4,138,166	$3,513,756	$1,901,561	$4,493,141	$9,908,459
2000	409,171	1,064,681	2,812,667	4,286,519	3,762,558	2,123,458	4,992,694	10,878,709
% Change 1999–2000	-15.1%	6.5%	5.9%	3.6%	7.1%	11.7%	11.1%	9.8%

The private sector is also experiencing relatively slow growth in HMO expenditures. In fact, total estimated private HMO-related spending rose only 5.9 percent from 1999 to 2000, while expenditures under all types of private non-HMO arrangements were up 11.1 percent. The 1999 SHEA reported a small decline in private HMO-related spending and a 12.3 percent increase in private non-HMO outflows. While less severe than last year, the 2000 SHEA confirms the retrenchment in private HMO activity that was first reported last year and contrasts sharply with the rapid growth in HMO activity observed in previous years.

Figure 1-6: Percent Change in Enrollment and Expenditures for HMOs: 1999–2000

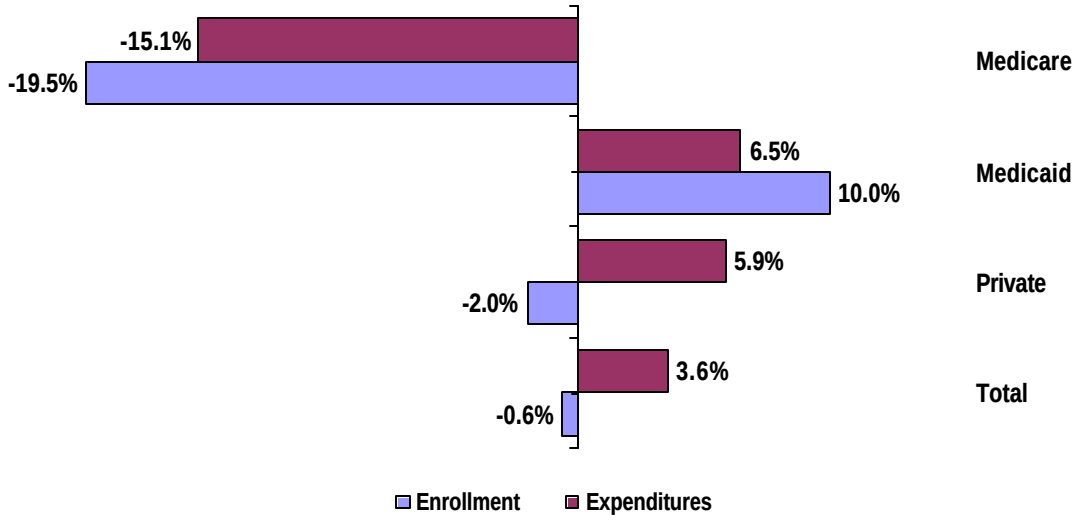


Figure 1-6 compares changes in expenditures and enrollments for HMOs by type of payer. The figure shows that changes in HMO expenditures are correlated with changes in enrollment across market segments. Medicare+Choice enrollment fell by 19.5 percent, driving a 15.1 percent reduction in Medicare+Choice spending. Medicaid HealthChoice expenditures grew 6.5 percent from 1999 to 2000 due to a 10.0 percent increase in enrollment. In the private sector, HMO expenditures rose a modest 5.9 percent, while enrollment actually *fell* 2.0 percent. Taken together, continued growth in HealthChoice enrollment almost offset declines in HMO enrollment among Medicare and private insured individuals, resulting in a small (0.6 percent) decline in HMO enrollment statewide.

Table 1-7: Changes in HMO Enrollment by Source of Coverage, 1995–2000

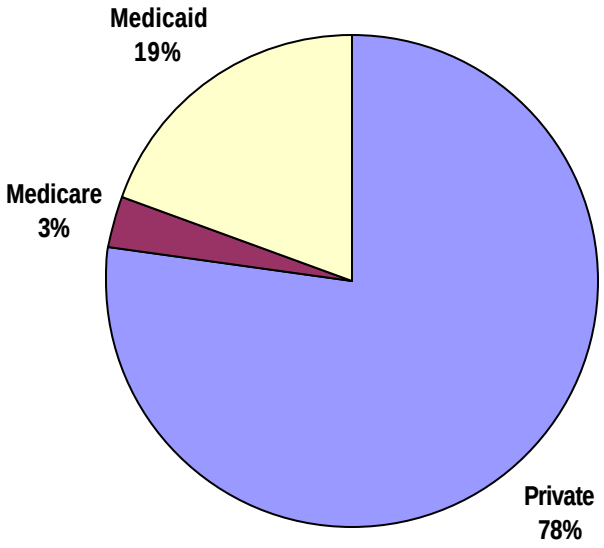
	ALL PAYERS	MEDICARE	MEDICAID	PRIVATE
1999-00	-0.6%	-19.5%	10.0%	-2.0%
1998-99	0.3	-3.1	11.4	-1.6
1997-98	7.1	5.3	79.4	-0.4
1996-97	10.1	125.0	30.4	5.6
1995-96	7.3	131.8	-0.1	6.6

Table 1-7 demonstrates that the stagnation of the HMO industry in Maryland actually began several years ago in the private sector. In fact, the reported enrollment in private HMOs has declined in each of the last three years, following two years of consistent, albeit declining, growth. Enrollment in Medicare HMOs began to tail off in 1998, leading to the steep decline that occurred in 2000. To some extent, these reductions were offset by increases in Medicaid enrollment resulting from the Medicaid HealthChoice program. Still, the private sector continues to be the dominant force in the

HMO industry, as illustrated in Figure 1-7. Privately insured enrollees represent 77.2 percent of all HMO enrollment in the state, followed by Medicaid and Medicare beneficiaries with 19.4 and 3.5 percent, respectively.

This distribution reflects the history of HMO activity in Maryland. Originally, almost all HMO enrollment was associated with private coverage. Medicare HMOs came somewhat later, while Medicaid HMOs are a relatively recent phenomenon associated with the HealthChoice program. As a result, private HMOs account for the vast majority of HMO enrollees in the state, and the relatively modest declines in recent years have done little to change that fact. In contrast, Medicare+Choice enrollment fell substantially in the last two years, primarily because many HMOs pulled out of the program. As a result, Medicare+Choice now represents a disproportionately small portion of all HMO enrollment in the State.

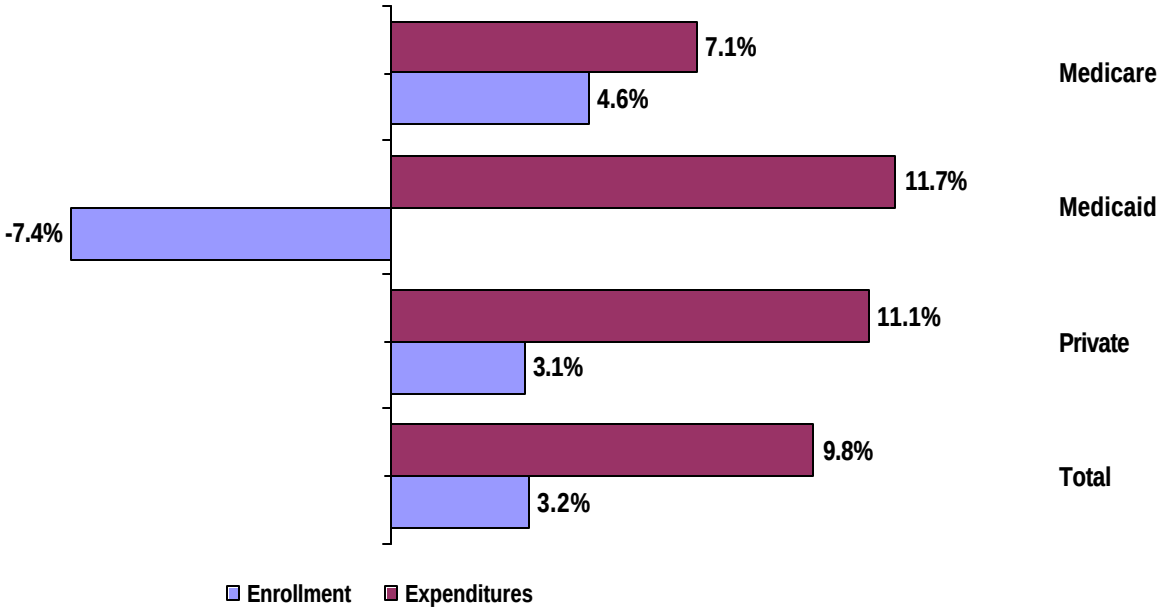
Figure 1-7: Percent Distribution of HMO Enrollment in Maryland by Payer, 2000



Last year's report offered possible causes for the problems that HMOs appear to be facing. One explanation was that Maryland residents are becoming less inclined to participate in tightly managed care programs of the type typically offered by HMOs. A second explanation was that the substantial growth in Medicaid managed care had somehow adversely affected the capacity of HMOs to provide services to privately sponsored enrollees. Another was that the distinction between HMOs and more traditional insurance arrangements has become increasingly blurred over time, as private insurers have adopted many managed care operating principles and as HMOs have begun to offer greater choice and to relax constraints on the ability of enrollees to use out-of-network providers. Given the continued declines in enrollment and modest increases in spending associated with HMOs in Maryland, it certainly appears that Maryland residents view HMOs less favorably now than several years ago. On the other hand, it is important to recognize that other types of health plans have adopted many of the techniques used by HMOs to control costs and improve clinical effectiveness. The decline of HMOs does not necessarily mean the decline of managed care.

The relationship between changes in non-HMO enrollment and expenditures is shown in Figure 1-8. Enrollment in original Medicare coverage increased 4.6 percent from 1999 to 2000, while expenditures rose 7.1 percent. In contrast, the number of Medicaid recipients outside of managed care arrangements fell 7.4 percent, even though their expenditures rose 11.7 percent. Private non-HMO enrollment increased 3.1 percent, while expenditures increased by 11.1 percent. On balance, one would expect expenditure changes to outpace enrollment for two reasons. One is the fact that health care costs tend to increase as a result of price changes, improvements in medical technology, and other factors. This increase is reflected in the overall difference between the growth in statewide spending (9.8 percent) and enrollment in non-HMOs (3.2 percent). The second reason is that the population that remains in non-HMO arrangements tends to be more expensive to serve than the population that moves to HMOs. For example, the nursing home population and those who are dually eligible for Medicare and Medicaid are not currently eligible to enroll in Medicaid's HealthChoice program.

Figure 1-8: Percent Change in Enrollment and Expenditures for Non-HMOs: 1999–2000



The distribution of health care expenditures by source of funding is shown in Table 1-8. This table facilitates comparisons based on funding sources, but it also allows a comparison of expenditure distributions by HMOs and non-HMOs. Presumably, HMOs make more effort to substitute outpatient and preventive care for more expensive services, especially inpatient care. While HMO efforts to contain expenditures have certainly had spillover effects in the non-HMO market, most experts still believe that HMOs have made more of these shifts than non-HMO payers.

According to data in Table 1-8, private HMOs spend proportionately more than non-HMOs on physician services (38.0 percent and 32.3 percent, respectively) and a smaller share on prescription drugs (8.8 percent and 15.1 percent, respectively). Private HMOs also spend a higher proportion of their dollars on outpatient hospital services than private, non-HMO plans, 12.3 percent versus 10.6 percent. Surprisingly, private insurance and HMOs have similar shares of expenditures

on inpatient care (21.2 percent and 23.6 percent, respectively). Because HMOs are generally viewed as especially conservative in their use of acute inpatient services, this finding could reflect differences in the health status of the covered populations. To the extent that there are regional differences in market penetration by private managed care organizations, it could also reflect regional differences in local delivery systems.

Table 1-8: Distribution of Maryland Health Expenditures ($000s) by Source of Payment and Delivery System, 2000

EXPENDITURE COMPONENTS	MEDICARE		MEDICAID		PRIVATE COVERAGE	
	Original Medicare	+Choice	Traditional Medicaid	HealthChoice	Insurers & Self-Funded	HMO
Total Health Expenditures ($$)	**$3,762,558**	**$409,171**	**$2,123,458**	**$1,064,681**	**$4,992,694**	**$2,812,667**
Hospital Services						
Inpatient	49.5	35.1	21.8	23.5	21.2	23.7
Outpatient	12.1	7.7	4.3	12.3	10.6	12.3
Physician Services	20.6	36.1	2.4	37.8	32.3	38.0
Other Professional Services	2.9	0.7	12.2	4.0	4.9	4.0
Prescription Drugs	-----	3.8	9.9	8.8	15.1	8.8
Nursing Home Care	5.4	2.7	32.5	0.1	0.3	0.1
Home Health Care	2.8	1.6	13.8	0.8	1.2	0.8
Other Services	2.9	2.6	0.9	0.4	0.7	0.4
Admin. & Net Cost of Insurance	3.8	9.7	2.3	12.3	13.7	11.8
Total All Services	**100.0%**	**100.0%**	**100.0%**	**100.0%**	**100.0%**	**100.0%**

According to data in Table 1-8, private HMOs spend proportionately more than non-HMOs on physician services (38.0 percent and 32.3 percent, respectively) and a smaller share on prescription drugs (8.8 percent and 15.1 percent, respectively). Private HMOs also spend a higher proportion of their dollars on outpatient hospital services than private, non-HMO plans, 12.3 percent versus 10.6 percent. Surprisingly, private insurance and HMOs have similar shares of expenditures on inpatient care (21.2 percent and 23.6 percent, respectively). Because HMOs are generally viewed as especially conservative in their use of acute inpatient services, this finding could reflect differences in the health status of the covered populations. To the extent that there are regional differences in market penetration by private managed care organizations, it could also reflect regional differences in local delivery systems.

The Medicaid program is another payer where differences in spending patterns may be driven by differences in the health status of individuals with traditional coverage, compared to HMO benefits. According to Table 1-8, Medicaid beneficiaries outside the HealthChoice program spend disproportionately more on nursing home, home health, and other professional services. This illustrates the traditional Medicaid role as a leading source of payment for subacute services in the health care industry. It also reflects the structure of the Medicaid program. As noted above, nursing home residents and individuals who are dually eligible for Medicare and Medicaid are not currently eligible to enroll in Medicaid's HealthChoice program.

Finally, it is interesting to consider which services have contributed to the growth of health care spending in Maryland and how those contributions differ by type of delivery system. Table 1-9 presents this analysis for private coverage in 2000. Four services account for the majority of the growth in private health spending: inpatient hospital, outpatient hospital, physician services, and prescription drugs. However, the rate of growth in hospital services, especially outpatient services, has been significantly higher among HMO enrollees than others with private coverage. In contrast, prescription drugs played a more prominent role in driving up spending by insurers and self-funded than it did for private HMOs. Prescription drugs account for 9.9 percent of the growth for HMOs compared to 16.8 percent for other forms of private coverage. One factor that is probably associated with this difference is relative improvements in prescription drug coverage by insurers and self-funded plans. HMOs have historically provided more generous coverage of prescription drugs than other forms of private coverage, although the difference has narrowed in recent years.

Table 1-9: Contributions of Specific Services to Private Coverage Growth Rates, 2000

SERVICES	INSURERS AND SELF-FUNDED	HMOs	TOTAL PRIVATE COVERAGE
Total Health Expenditures	**100.0%**	**4.0%**	**4.6%**
Hospital Services			
Inpatient	7.1	30.7	12.7
Outpatient	18.4	23.9	19.7
Physician Services	36.3	28.0	34.3
Other Professional Services	6.9	0.5	5.4
Prescription Drugs	16.8	9.9	15.2
Nursing Home Care	0.3	0.2	0.3
Home Health Care	1.2	0.9	1.1
Other Services	0.8	0.5	0.7
Admin. & Net Cost of Insurance	12.2	5.3	10.6

Note: Table 1-9 focuses on private coverage because Medicare and Medicaid are dominated by one form of delivery system. About 90 percent of Medicare beneficiaries in Maryland are covered by Original Medicare. Roughly 80 percent of Medicaid beneficiaries are enrolled in HealthChoice, and most of the remaining 20.0 percent are not eligible for HealthChoice because of their eligibility status or because they also have Medicare coverage.

SUMMARY

Total health care spending in Maryland during 2000 was $19.4 billion, or 8.4 percent more than the estimated 1999 spending level of $17.9 billion. The increase in 2000 is much larger than the 4.6 percent increase reported in last year's SHEA. In fact, it is the most rapid increase in health care spending reported in Maryland in the last five years, as shown in Table 1-10, which compares trends in the growth of health care spending in Maryland and the United States.

Table 1-10: Trends in the Growth of Health Care Spending, Maryland vs. United States

	MARYLAND	UNITED STATES
1999-00	8.4 %	7.4 %
1998-99	4.6	5.7
1997-98	5.3	5.5
1996-97	2.8	4.9
1995-96	3.8	5.1

Note: National growth rates are for the National Health Expenditure Accounts, see footnote 4.

Maryland's experience in 2000 is very similar to what took place nationally, where the growth rate accelerated from 5.7 percent in 1999 to 7.4 percent in 2000. However, for the first time in the last five years, the rate of increase in Maryland spending exceeded the rate of increase in the rest of the nation. While it is difficult to explain why health care spending in Maryland would increase more rapidly than in the rest of the country, it is reasonable to suspect that the robust state economy in 2000 could be a significant factor. The fact that relatively strong spending growth occurred in all sectors of the Maryland health care industry seems to support this notion. In contrast, for example, spending growth in 1999 was driven largely by increases in spending on prescription drugs and other pharmaceuticals.

In relative terms, the private sector in Maryland expanded its role in financing health care expenditures in 2000. Spending growth in the private sector, including private coverage and OOP spending by consumers, was 9.2 percent overall. OOP spending, which includes direct payments by consumers for deductibles, co-insurance, and uninsured products and services, grew 9.3 percent, while expenditures paid by private third parties (insurers, self-insured groups, and health plans) rose 9.2 percent. With these increases, the share of statewide health care spending associated with private sources was 56.7 percent. In contrast, the 2000 rate of growth for all government payers was 7.4 percent. Government spending on health care totaled $8.4 billion, or 43.3 percent of total expenditures. Most of the government spending (87.4 percent) was funded by Medicare and Medicaid, which together accounted for 37.9 percent of all health care spending in the state.

Overall enrollment in Maryland HMOs was relatively stagnant in 2000, but the overall figures hide important changes in HMO participation among different payers. Enrollment in Medicaid HMOs continued to increase as a result of the HealthChoice program and expansions in program eligibility. At the same time, enrollment in private HMO arrangements and in Medicare+Choice plans declined significantly. On balance, these changes left the size of the HMO sector in Maryland essentially unchanged from 1999 to 2000. In 1999, 38.6 percent of the Maryland population was enrolled in HMO plans; in 2000, the figure was 38.0 percent.

The reported declines in HMO enrollment (19.5 percent for Medicare and 2.0 percent for private payers) are somewhat misleading, because distinctions between indemnity-type arrangements and formal HMOs have blurred substantially in recent years.

Most companies that sell HMO products also offer products with more flexibility such as point-of-service options. Even some traditional HMOs are experimenting with direct access to specialists. On the other hand, many traditional insurers now include some managed care provisions, especially with regard to prescription drug benefits, mental health services, and inpatient hospital care. For Medicare the story is more mixed because several large HMOs left the market. Enrollment in Medicare+Choice has been severely affected by the availability of Medicare+Choice plans. By the start of 2001, residents in 16 Maryland counties had no access to Maryland+Choice plans. This situation appears to be continuing into 2002.

2. PER CAPITA HEALTH CARE EXPENDITURES IN MARYLAND

The level of health care expenditures in Maryland depends upon two basic factors. One is the distribution of the population across various types of payers. When more people have health insurance for their use of health services, it is reasonable to expect that expenditures will go up. At the same time, given the distribution of people across types of payers, total spending will depend upon the average level of spending per person by type of coverage. This chapter addresses the second of these issues—patterns of per capita spending in Maryland both in the aggregate and by source of payment.

Per capita expenditures in 2000 for all health care services and administrative costs, averaged across all Maryland residents was $3,670, up 7.4 percent from the 1999 figure of $3,416.[1] Per capita expenditures grew more slowly than total spending in Maryland because of the 0.9 percent growth in population. *Direct spending* per capita, which measures the value of health care *services* used by Maryland residents and excludes administrative costs, grew 7.6 percent from $3,146 to $3,386. The difference between these two per capita growth rates is attributable to information presented in Table 1-1, namely that administrative costs and the net costs of insurance increased 6.0 percent, or 2.4 percentage points less than overall statewide spending, from 1999 to 2000.[2]

PER CAPITA SPENDING FOR DIFFERENT POPULATION GROUPS

Table 2-1 shows that statewide per capita figures conceal important payer-specific differences in average per capita spending.[3] The construction of this table is different from that of tables in the previous chapter, because it attributes spending to individuals based on their principal type of

[1] The 2000 population data included in this report are taken from the 2000 Decennial Census conducted by the Bureau of the Census, U.S. Department of Commerce. The 1999 population data were estimated by MHCC based on the 2000 census data and population projections developed by the Maryland Office of Planning, Planning Data Services. The methodology was applied at a county level and involved first calculating the average annual rates of population growth that the Maryland Office of Planning had forecast for the period 2000 to 2005. These rates of growth were then used to move backward from 2000 Census estimates of the Maryland county populations to determine the 1999 population figures reported here. Estimated county populations were then aggregated up to regional and state estimates, as necessary.

[2] For some purposes, direct spending is a better measure of the health care services provided to Maryland residents, because it is not confounded by such issues as who pays for utilization review; periodic changes in accounting standards; or the costs of marketing, sales, and claims processing. However, direct spending does not answer the question, "How much do Maryland residents pay for health care?" precisely because it does not take into account such administrative costs.

[3] One problem in developing per capita estimates from the SHEA is that some people have more than one type of coverage. Approximately 45,000 Maryland residents in federal FY2000 had both Medicare and Medicaid coverage. Another substantial number of residents had both Medicare and some type of private coverage. In constructing the payer-specific per capita estimates reported in this chapter, every effort was made to ensure that the expenditures in the numerator of the per capita ratio matched the individuals included in the denominator. Medicare expenditures include all Medicare program payments made on behalf of Maryland residents plus co-insurance and deductibles due for their services, regardless of whether they are paid by supplemental private insurance ("MediGap"), Medicaid, or beneficiaries themselves. The creation of a single Medicaid per capita figure is more problematic, because Medicaid actually involves several different programs with varying eligibility criteria and benefits. For this reason, the discussion regarding Medicaid per capita spending, with the exception of Table 2-1, focuses on the HealthChoice program.

coverage. Medicare spending is measured as the sum of benefits paid by the Medicare program or Medicare+Choice contractors, copayments and deductibles paid on behalf of Medicare beneficiaries by Medicaid and private payers, out-of-pocket spending by beneficiaries themselves, and the costs of administering coverage for Medicare beneficiaries. This sum is divided by the average number of Medicare beneficiaries in Maryland to estimate per capita spending. Medicaid spending excludes amounts paid on behalf of Medicare beneficiaries. Private coverage is not shown separately in Table 2-1 because of difficulties in measuring spending and enrollees on a consistent basis, but it is included in the statewide aggregates shown in the final column labeled "All Residents."

Table 2-1: Maryland Average Per Capita Expenditures for Medicare and Medicaid Enrollees Compared to All Residents, 1999 and 2000

	MEDICARE[1]	MEDICAID[2]	ALL RESIDENTS[3]
1999	$7,071	$6,835	$3,416
2000	7,371	6,994	3,670
% Change 1999–2000	4.3%	2.3%	7.4%

Note: [1]The sum of benefits paid by the Medicare program or Medicare+Choice contractors, copayments and deductibles paid on behalf of Medicare beneficiaries by Medicaid and private payers, out-of-pocket spending by beneficiaries themselves, and the costs of administering coverage for Medicare beneficiaries (including private health plans), divided by the average quarterly number of beneficiaries.
[2] Medicaid spending excludes amounts paid on behalf of Medicare beneficiaries, but includes state and federal Medicaid program administration costs. The denominator is the average monthly enrollment in the Medicaid program, excluding those dually enrolled in Medicare and Medicaid. Spending for persons in special programs, such as the Maryland Pharmacy Assistance Program, is not included in Medicaid spending, and these types of enrollees are omitted from the denominator.
[3] All Residents represents total health expenditures in Maryland divided by all Maryland residents.

The average per capita spending for Medicare beneficiaries in 2000 was $7,371, and Medicaid spending per capita, averaged across all forms of coverage, was $6,994. Both exceed the statewide average of $3,670. Variations in the level of per capita expenditures by pay source reflect the different health care needs of enrolled populations and distinguishing aspects of the benefit packages of Medicare, Medicaid, and private health plans. Medicare covers a population that is elderly or disabled. For this reason, its per capita expenditures are more than twice the statewide average. Medicaid targets low-income residents and individuals with a substantial need for financial assistance in covering health care costs. The relatively high level of Medicaid spending is attributable to beneficiary health status, the comprehensive benefit package provided by Medicaid, and the expense involved in offering a nursing home benefit. In contrast, the relatively low statewide average spending shown in Table 2-1 reflects more modest spending levels of individuals with private coverage. Because most private coverage is employment-related and good health is generally necessary to hold a job, this population tends to be in relatively good health.

Per capita expenditures for the insured population overall increased 7.4 percent from 1999 to 2000. However, Table 2-1 shows considerable variation in the rate of increase by payer. Medicare spending per capita only rose 4.3 percent, which probably reflects the impact of new payment systems and reforms designed to restrain Medicare spending. Medicaid per capita spending rose even less, 2.3 percent. As discussed below, such slow growth is largely the result of declining per capita spending among individuals enrolled in the HealthChoice program.

Table 2-2: Maryland Average Per Capita Expenditures for Covered Services Among Residents with Medicare Coverage, by Type of Enrollment, 2000

	AVERAGE EXPENDITURES		% CHANGE 1999–2000	
	Traditional Enrollees	Medicare +Choice Enrollees	Traditional Enrollees	Medicare +Choice Enrollees
Benefits Paid by Medicare	$6,129	$5,316	2.3%	7.1%
MediGap/Retiree Coverage	811	-----	8.9	-----
Patient Liabilities	245	182	13.8	13.8
Total Benefits Paid	7,185	5,499	3.3	7.3
Administration	340	572	5.9	-7.8
Total Spending	7,524	6,071	3.5	5.7

Note: Medicare+Choice benefits paid by Medicare are estimated as capitation payments to health plans by Medicare minus administrative expenses. The costs of administration for Medicare+Choice, in turn, are estimated as the average administrative expense of plans reporting Medicare+Choice enrollment in 2000, weighted by the dollar value of their Medicare business.

Table 2-2 shows the composition of the Medicare per capita figures and illustrates how the various components have grown differentially. **The Medicare program paid an average of $6,129 to providers on behalf of beneficiaries enrolled in traditional Medicare in 2000, 15 percent more than the $5,316 paid to health plans to provide care to beneficiaries enrolled in Medicare+Choice.** The difference between traditional and Medicare+Choice coverage is even larger when all types of spending are taken into account. Traditional enrollees averaged $7,524 in total spending, which includes more than $1,000 per year in coinsurance and deductibles paid by some type of MediGap coverage ($811) or by the beneficiaries themselves ($245). These estimates do not include other out-of-pocket (OOP) spending for prescription drugs, vision care, and other items that are not included in the benefits of the traditional Medicare program. Medicare+Choice enrollees averaged $6,071 in total spending, and their patient liability (copayments of $182 per person) is significantly smaller than that averaged by traditional enrollees. Medicare+Choice plans achieve these lower spending levels even though they typically offer more generous benefit packages than traditional Medicare. While some savings may be attributable to the effects of managed care and aggressive fee schedules negotiated by health plans with their network providers, they may also reflect differences in the health status of individuals who select Medicare+Choice instead of traditional Medicare coverage. The administrative costs of the Medicare+Choice program are somewhat higher than for traditional Medicare, because the traditional Medicare program is so large that it has been able to achieve substantial economies of scale in claims processing, medical management, and other administrative activities.

To a large extent, the benefits paid by Medicare+Choice plans are determined by Medicare, which sets capitation rates on a county-by-county basis. Historically, health plans initially accepted these lower spending levels and typically offered more generous benefit packages than traditional Medicare. While some savings in the early years of the program were likely attributable to the effects of managed care and aggressive fee schedules negotiated by health plans with their network

providers, they probably also reflected the relatively good health status of the individuals who initially selected Medicare+Choice over traditional Medicare coverage. Beneficiaries with serious health problems tended to remain in traditional Medicare in order to continue using their existing providers. However, some evidence suggests that many of those with health problems, especially those with lower incomes, began to shift into Medicare+Choice once they realized how much they could save in OOP spending. Health plans complained that higher proportions of sicker beneficiaries, the need to pay more to providers to keep them in their network, and the rising costs of services such as prescription drugs made it impossible to provide care at established capitation rates. In response, many plans left the program, and those that remain have cut back on their benefit packages and/or require an additional monthly premium from the beneficiary. Currently only two health plans offer coverage in Maryland. Consequently, some Maryland beneficiaries no longer have access to a Medicare+Choice plan, while others have access to just one plan that requires a monthly premium (such as Kaiser Permanente Senior Advantage).

While the costs of traditional Medicare exceed those of Medicare+Choice on a per capita basis, Table 2-2 indicates that the relative gap narrowed somewhat in 2000. Medical benefits paid by traditional Medicare rose only 2.3 percent, which is below the overall statewide increase of 7.4 percent in direct spending per capita. In contrast, benefits paid under Medicare+Choice coverage rose 7.1 percent, which is also below that statewide increase in direct spending per capita but larger than the increase in traditional Medicare. The increase in benefits paid under Medicare+Choice is attributable to several factors. From 1999 to 2000, the average Medicare+Choice capitation rate in Maryland increased 2.8 percent, which is only slightly larger than the increase in average benefits paid under traditional Medicare. However, there was also a shift in the distribution of Medicare+Choice enrollees favoring counties with higher capitation rates. That is, a larger proportion of Medicare+Choice enrollees lived in the Baltimore and Washington metropolitan areas in 2000 than in 1999, primarily because residents of more rural areas had less access to Medicare+Choice plans for reasons discussed above. Finally, administrative expenses consumed less of the capitation dollar in 2000 than in 1999, which made more money available for health care benefits.

The difference between traditional Medicare and Medicare+Choice in their rates of growth is slightly smaller when it is based on total benefits paid (3.3 percent versus 7.3 percent) rather than benefits paid by Medicare (2.3 percent vs. 7.1 percent). Inflation in the prices providers charged for their services in 2000 pushed up coinsurance expenditures for traditional Medicare beneficiaries, because traditional Medicare coinsurance is usually calculated on the basis of charges rather than Medicare reimbursements. When charges increase more rapidly than Medicare reimbursements, the situation in 2000, the combined payments associated with traditional Medicare grow more rapidly than payments under Medicare+Choice, all other things being equal. The only component shown in Table 2-2 where Medicare+Choice fared better than traditional Medicare is the estimated cost of administration, which is estimated to have fallen 7.8 percent. This reduction is due primarily to an increase in the market share of Medicare+Choice plans with low administrative costs, meaning that they are able to provide more benefits out of a fixed capitation rate. The difference in administrative growth narrows the gap in growth rates for total per capita spending to 3.5 percent versus 5.7 percent.

Table 2-3 compares the per capita spending levels for the Medicaid HealthChoice program in 1999 and 2000.[4] **The average per capita expenditure for a HealthChoice enrollee in 2000 was $3,647, a reduction of 8.3 percent from 1999 spending levels.** The reduction in benefits paid was actually slightly larger (8.6 percent), but the difference in benefits paid was offset by a slightly smaller decline in the administrative costs of HealthChoice plans.

Table 2-3: Maryland Average Per Capita Expenditures for Covered Services Among Medicaid HealthChoice Enrollees, 1999-2000

	1999	2000	% Change 1999–2000
Total Benefits Paid	$3,622	$3,311	-8.6%
Administration	354	336	-5.1
Total Spending	3,976	3,647	-8.3

Note: HealthChoice enrollee benefits paid by Medicaid include any services obtained by HealthChoice enrollees through the traditional Medicaid fee–for-service (FFS) program, e.g., mental health services, as well as services received through the managed care organizations. In the SHEA, all FFS services are reported in the traditional Medicaid column, regardless of which enrollees used the services.

This result is consistent with the findings illustrated in Figure 1-6, which show a 10 percent increase in Medicaid HealthChoice enrollment against a 6.5 percent increase in expenditures. Since spending went up less than enrollment, it means that spending must have fallen on a per capita basis. One reason for this pattern is that Medicaid HealthChoice enrollment increased because of federal legislation that extends Medicaid coverage to include mothers and children who did not previously qualify on the basis of income alone. Since these newly eligible Medicaid beneficiaries are relatively healthy, spending for their health care tends to be lower than the average for all Medicaid beneficiaries. On the other hand, overall Medicaid spending in Maryland increased 9.9 percent in 2000, which means that increases outside of HealthChoice substantially offset savings associated with the HealthChoice program.

Average per capita expenditures for Maryland residents with private coverage are summarized in Table 2-4. The methodology used in the Maryland SHEA to allocate the spending of individuals with private coverage across different services uses information that MHCC obtains from an organization that compiles insurance claims for analytic purposes. In addition to defining the service distribution for private coverage in the SHEA, these data can be used to estimate both benefits paid and residual patient liabilities associated with those claims for a well-defined group of more than 90,000 Maryland residents. These residents represent a range of experiences in terms of benefit packages, cost-sharing requirements, and medical management techniques. Because the individuals included in this database are not necessarily representative of all residents with private coverage,

[4] This discussion focuses on HealthChoice enrollees, because it is the largest and most analytically meaningful portion of the Medicaid population. Among Maryland's fully-insured Medicaid beneficiaries in 2000, 79 percent were enrolled in the HealthChoice program, 9 percent were dually eligible for Medicare and Medicaid, and 13 percent were enrolled in traditional Medicaid. Non-dual, traditional Medicaid beneficiaries in Maryland include primarily individuals living in institutions (e.g., nursing homes), persons with high medical bills that "spend down" to Medicaid eligibility limits, and certain enrollees in the Home & Community Based Waiver programs, i.e., disabled children and senior assisted housing residents. (Participants in special programs like the Maryland Pharmacy Assistance Program are not fully insured and are not included here.)

these data cannot be used to estimate total spending from private sources in Maryland. Also, because there are no claims submitted to private carriers and health plans for health care expenditures that are outside the scope of the benefit packages, these data do not capture all health expenditures for individuals with private coverage. However, these data do provide an interesting picture of how spending within the scope of such benefit packages changed in 2000 and how spending levels compare between HMOs and other types of private coverage on a per capita basis.

Table 2-4: Maryland Average Per Capita Expenditures for Covered Services Among A Sample of Residents with Employer-Based Private Coverage, by Type of Payer, 1999-2000

	2000		1999	
	Insurers and Self-Funded	HMOs	Insurers and Self-Funded	HMOs
Benefits Paid by Insurance	$1,529	$1,611	$1,323	$1,593
Patient Liabilities	225	161	212	169
Total Benefits Paid	1,754	1,772	1,536	1,763
Administration	243	213	213	204
Total Spending	1,996	1,985	1,748	1,967

According to Table 2-4, the average per capita expenditure by HMOs ($1,611) exceeded the average benefit paid by insurance or self-funded plans ($1,529) by 5.4 percent in 2000. However, when patient liabilities and administrative costs are taken into account, the total per capita spending for HMO enrollees is slightly *below* that of enrollees with other types of private coverage. The 2000 pattern differs considerably from 1999 when HMO benefits paid exceeded benefits paid by other types of private coverage by 20.4 percent ($1,593 versus $1,323). This gap was so large that in spite of lower per capita expenditures for administration and patient liability, total per capita spending for covered services for HMO enrollees was 12.5 percent above the rate for other types of private coverage ($1,967 versus $1,748).

The apparent convergence of health spending under different types of private coverage is superficially due to the fact that per capita benefits paid by HMOs increased just 1 percent in 2000 while per capita benefits paid by other forms of private coverage rose 15.6 percent. The underlying factors that explain these changes are less obvious. These different rates of change could reflect changes in the relative health status of the underlying insured populations or in the geographic distribution of the HMO enrollees as a percent of all individuals with private coverage in this sample. In fact, the private HMO market penetration in 2000 increased in parts of the state with relatively low health care costs and fell in areas with higher costs per capita. The net effect was to reduce the statewide *average* cost per capita for private HMO enrollees. (The regional distribution of health care spending is discussed in the following chapter.) Additionally, these differential growth rates could incorporate changes in the benefit packages provided by these employers, such as benefit expansions by non-HMO private coverage sources to meet the preference of enrollees for well-care screening and laws mandating benefits for traditional insurers.

SUMMARY

Per capita spending in 2000 for all health care services and administrative costs averaged $3,670 per Maryland resident, up 7.4 percent from $3,416 in 1999. However, there is considerable variation in spending levels and growth rates across types of payers in the state. Average per capita spending for Medicare and Medicaid services ($7,371 and $6,994, respectively) are both much higher than the statewide average, but exhibited slower rates of growth than the rest of the state in 2000. Average spending per capita for Medicare rose 4.3 percent while Medicaid spending went up only 2.3 percent on a per capita basis.

There is also considerable variation in spending levels and growth rates within broad payer categories. Some of this variation is related to the type of health plan in which individuals are enrolled. For example, average total spending per Medicare beneficiary enrolled in the original Medicare program was $7,524 in 2000, an increase of 3.5 percent from 1999. Average total spending for Medicare+Choice enrollees in 2000 was nearly 20 percent less ($6,071) but increased at a faster rate (5.7 percent). Among Medicaid beneficiaries enrolled in HealthChoice, average total spending in 2000 was actually 8.3 percent less than in 1999 ($3,647 versus $3,976) and considerably less than average per capita spending for the entire Medicaid program.

HMO enrollment was also a key factor in shaping spending patterns among individuals with private coverage. Figures 1-6 and 1-8 presented information indicating that private HMOs experienced declining enrollment and slower growth in health care spending in 2000 when compared with other forms of private coverage. Those indications are consistent with the information presented in Table 2-4, which is based on samples of Maryland residents with private coverage in 1999 and 2000. In particular, average total per capita spending for individuals enrolled in private insurance or self-funded health plans rose an estimated 13 percent in 2000, compared to an estimated 1 percent increase for HMO enrollees. Combined with a 3.1 percent increase in enrollment, it is evident that increases in spending under private, non-HMO arrangements are the primary driver of the relatively large increase in statewide spending reported in the 2000 SHEA.

3. REGIONAL ANALYSIS OF MARYLAND'S HEALTH CARE MARKET PLACE

The health care market place in Maryland is characterized by diversity. There are substantial regional variations across the state in terms of demographics, economic circumstances, health status, insurance coverage, and the availability of health care resources. This diversity inevitably affects the health care services that are required to treat individuals in different parts of the state, their ability to find providers to deliver those services, and the prices that they must pay for such care.

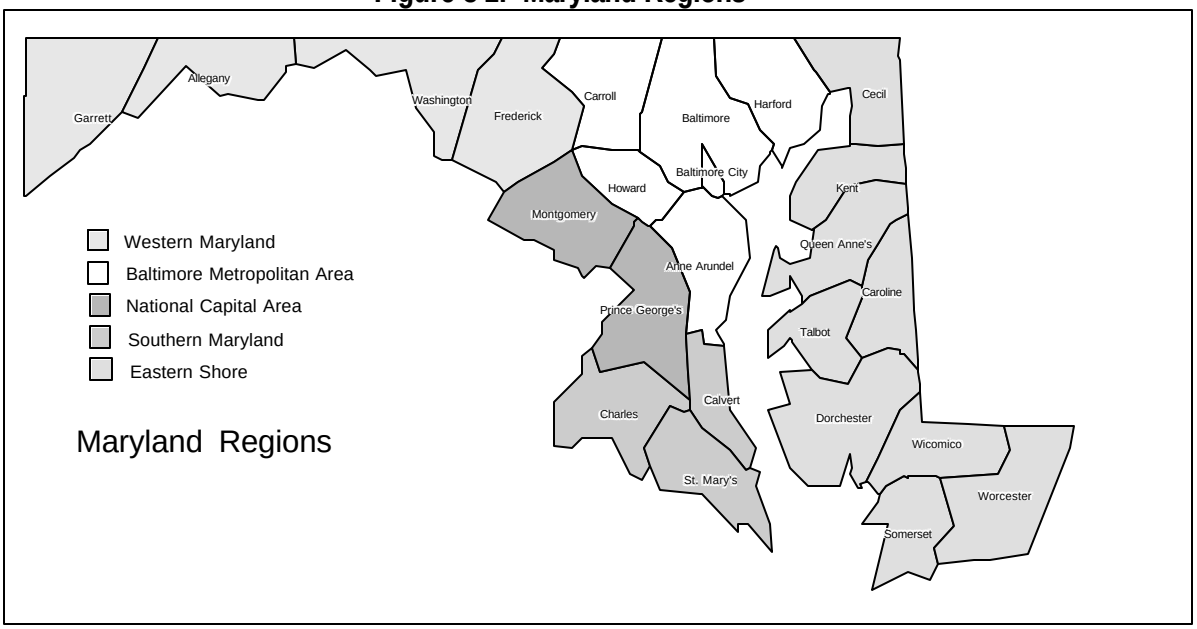
The purpose of this chapter is to highlight regional differences in health care spending across the state, focusing on two basic issues: (1) the extent to which expenditures vary across regions within the state and (2) how the distribution of expenditures by source of payment and by type of service varies by region.

This chapter builds on ideas presented in Chapters 1 and 2, which provide detailed discussions of the distribution of expenditures at the state level. Some of that discussion is mirrored here at the regional level. The previous chapters also discuss the data sources and allocation methods used in generating the tables and provide some caveats that should be read to avoid overinterpreting the data.

Geographic variation within Maryland in the pattern and level of health care spending is best understood by segmenting the state into regions that share a common health care infrastructure, as well as similar demographics, economic indicators, medical care costs, and utilization patterns. With this goal in mind, Maryland was divided into five regions of analysis, as shown in Figure 3-1. This regional classification conforms to that used by the Maryland Vital Statistics Administration.

DEFINING THE REGIONS WITHIN MARYLAND

Figure 3-1: Maryland Regions



REGIONAL VARIATION IN FACTORS THAT INFLUENCE HEALTH CARE UTILIZATION

The volume of spending for health services in a region results from choices made in that region's health care market place. Demand, supply, and service prices—which lie behind the observed choices—vary from region to region, and the result is regional differences in what is purchased and how much is spent.[1] **This section of the chapter describes many of the factors that influence health care service demand and supply: population demographics, health status and life style, health care coverage and economic factors, and resource availability.**

The comparative information in Table 3-1 illustrates regional variation in factors that drive health care utilization. Age distributions and racial composition, which tend to shape health care needs and preferences, differ significantly by region. For instance, the proportion of minorities ranges from 9.3 percent in Western Maryland to 53.3 percent in the National Capital Area. The Eastern Shore is home to the state's oldest population, with 14.6 percent of the population age 65 or older. Southern Maryland, in contrast, is home to the youngest population; only 8.5 percent of its population is elderly while nearly 25 percent is under the age of 18. Regional diversity also exists in the availability of treatment resources. The supply of Maryland-based hospital beds ranges from 96 per 100,000 population in Southern Maryland to 227 beds per 100,000 residents in the Baltimore Metropolitan Area. Similarly, the supply of physicians ranges from 104 per 100,000 residents in Southern Maryland to 376 per 100,000 residents in the National Capital Area. While such statistics are useful, it is important to recognize that many Maryland residents have convenient opportunities to use resources in neighboring jurisdictions. For example, hospital beds in the District of Columbia are used by residents of the National Capital Area (and Southern Maryland). Such border crossing expands the resources available to residents near jurisdictional borders.

Economic well-being, which is positively correlated with health care use, shows considerable regional variation. The National Capital Area has the highest per capita income in the state, $36,991 in 1999, and, along with Southern Maryland, the lowest unemployment rate in 2000 at 2.8 percent. The lowest per capita income and highest unemployment rate are found on the Eastern Shore, with per capita income of $24,777 and a 5.6 percent unemployment rate. Unemployment is of special interest because most private coverage is tied to employment.

Insurance coverage is also an important factor in health care utilization and spending. Insurers differ in their coverage packages (influencing what services are used) and in the populations they serve. As a result, the distribution of residents across the major payer categories has implications for regional health care expenditures. Enrollment in public insurance programs is positively related to higher per capita expenditures because of greater health care needs, especially in

[1] With regard to prices for most services in Maryland (excluding hospital services, which are set by the state's regulatory system), the state's private payers tend to negotiate service prices and the public payers set service prices. Traditional Medicaid has one fee-for-service (FFS) price schedule for the state, while the Medicaid HealthChoice program has two sets of capitation rates, one for Baltimore City and one for the rest of the state. In general, Medicare pays significantly lower prices and capitation rates in the state's rural regions and much higher rates in Baltimore City. Private payers can negotiate lower prices in areas where they have significant numbers of enrollees and where there are many competing health care providers, making it difficult to identify and characterize regional price trends in the private market.

Table 3-1: Health-Related Data for Maryland Regional Subdivisions

CHARACTERISTICS	REF. NO.*	MARYLAND TOTAL	NATIONAL CAPITAL	BALTIMORE METRO AREA	EASTERN SHORE	SOUTHERN MD	WESTERN MD
DEMOGRAPHICS							
Total population, 2000	1	5,296,486	1,674,856	2,512,431	395,903	281,320	431,976
Population % growth, 1999–2000	2	0.9%	1.1%	0.6%	1.0%	1.9%	1.2%
Population distribution, 2000:	1						
Under age 18 population (as % of total)		25.6%	26.1%	25.3%	24.2%	28.7%	24.9%
18–44 population (as % of total)		39.9%	41.2%	39.7%	36.9%	40.3%	39.2%
45–64 population (as % of total)		23.1%	23.2%	23.0%	24.3%	22.5%	23.0%
65 & older population (as % of total)		11.3%	9.6%	12.0%	14.6%	8.5%	12.8%
Minority population (as % of total)		36.0%	53.3%	33.0%	19.6%	23.4%	9.3%
HEALTH STATUS							
Total births, 2000	3	74,226	25,478	34,241	4,888	3,985	5,634
Low birth weight babies (% of births)		8.7%	8.6%	9.1%	8.4%	7.5%	7.1%
Late or no prenatal care (% of births)		13.2%	12.9%	12.9%	13.8%	14.7%	14.6%
Infant mortality rate per 1,000 live births		7.4	7.0	7.7	10.2	8.3	4.1
AIDS deaths per 100,000 pop., 1999	4	11	8	17	4	2	2
Heart disease deaths per 100,000 pop., 1999	4	232	171	262	302	142	301
Malignant neoplasm deaths per 100,000 pop., 1999	4	195	146	219	258	169	213
Cerebrovascular disease (stroke) deaths per 100,000 pop., 1999	4	55	42	62	64	43	72
Chronic lower respiratory disease deaths per 100,000 pop., 1999	4	38	25	42	52	28	57
Pneumonia & influenza deaths per 100,000 pop., 1999	4	22	19	23	28	16	27
Diabetes deaths per 100,000 pop., 1999	4	27	22	30	33	22	32
Accidents and adverse effects deaths per 100,000 pop., 1999	4	24	18	24	38	31	28
Septicemia deaths per 100,000 pop., 1999	4	19	13	26	14	8	12
Alzheimer's deaths per 100,000 pop., 1999	4	13	9	15	20	5	15
HEALTH CARE COVERAGE AND ECONOMIC INDICATORS							
Medicare enrollment (% of pop.), 2000	5	12.5%	10.1%	13.5%	16.2%	9.3%	14.1%
Medicaid enrollment (% of pop.), 2000	6	9.3%	7.1%	10.9%	10.7%	7.5%	8.5%
Per capita income, Level 2000	7	$31,751	$36,991	$30,684	$24,777	$28,399	$26,215
Per capita income, % change (1998–99)		4.8%	5.4%	4.1%	4.5%	7.4%	3.9%
Unemployment rate (% of civilian labor force), 2000	8	3.9%	2.8%	4.5%	5.6%	2.8%	3.8%
Unemployment rate (% of civilian labor force), 1999–2000 absolute change		0.4%	0.2%	0.5%	0.6%	0.1%	0.1%
Percent with private coverage, 2000	9	69.6%	74.8%	66.6%	61.9%	80.5%	66.6%
Percent with private coverage, 1999–2000 absolute change		0.0%	-0.2%	0.2%	-0.1%	-0.8%	-0.2%
Private HMO coverage as % of private coverage, 2000	9	42.1%	47.4%	40.3%	43.9%	25.1%	41.2%
Private HMO coverage as % of private coverage, 1999-2000 absolute change		-1.2%	0.5%	-1.4%	-7.0%	-7.9%	2.4%
RESOURCES AVAILABLE							
Licensed nursing home beds per 100,000 pop., 2000	10	596	464	636	775	358	858
Licensed acute care hospital beds per 100,000 pop., 2000	11	181	126	227	175	96	181
Total nonfederal patient care physicians per 100,000 pop., 1999	12	315	376	350	159	104	160

*References are listed on pages 43-44 of this chapter.
Note: Medicaid enrollees include those beneficiaries with full Medicaid benefits only. These estimates exclude those dually enrolled in Medicare and Medicaid, or those enrolled in special programs, such as the Maryland Pharmacy Assistance Program.

Medicare and the broad benefit package in Medicaid.[2] Medicare enrollment ranges from 16.2 percent of the residents on the Eastern Shore to just 9.3 percent in Southern Maryland. Medicaid enrollment is highest in the Baltimore Metropolitan Area at 10.9 percent of residents, and lowest in the National Capital Area at 7.1 percent. Southern Maryland has the highest percent of the population with private coverage (80.5 percent), followed by the National Capital Area at 74.8 percent. In the other regions, the portion of residents with private coverage does not reach the 70 percent threshold.[3] Table 3-1 also shows that private HMO market penetration varies considerably across the state, ranging from a low of 25.1 percent in Southern Maryland to a high of 47.4 percent in the National Capital Area.

Regional variations in health care expenditures can be attributed not only to the levels of these factors observed in each of Maryland's regions, but also to how these factors have changed over time. According to the information presented in Table 3-1, Southern Maryland has one of the most dynamic populations in the state. It is the most rapidly growing, with a population that increased 1.9 percent from 1999 to 2000.[4] Southern Maryland also experienced a 7.4 percent increase in per capita income in 1999, which is much larger than any other region. Despite this economic growth, the availability of health care resources appears to lag in this region. Southern Maryland has the fewest hospital beds and physicians per 100,000 population (96 beds and 104 physicians) of any region. Limited resources for delivering care in the face of pressures increasing the demand for health care services may cause higher prices and contribute to increases in per capita spending. However, in evaluating regional differences in spending, it is important to recognize that regions are not isolated from each other.

The decline in private HMO market penetration reported in Chapter 1 also appears to vary considerably across regions. The HMO share of private coverage declined 1.2 percentage points in 2000, from 43.3 percent to 42.1 percent. However, two regions show an increase in HMO market penetration: Western Maryland (2.4 percent) and the National Capital Area (0.5 percent). The reductions in market share across the remaining regions range from 1.4 percentage points in Baltimore to 7.0 percent or more in Southern Maryland and on the Eastern Shore. The HMO market share is an important factor in health care spending, because HMO spending differs from that of FFS coverage, both in service mix and in per capita expenditures, as discussed in Chapter 2.

REGIONAL HEALTH CARE EXPENDITURES

Table 3-2 summarizes the distribution of health care expenditures by region for 2000. **The Baltimore Metropolitan Area accounts for over half (51.5 percent) of all spending in the state of Maryland, up slightly from 51.2 percent in 1999.** The National Capital Area ranks second in terms of total Maryland spending in 2000 (28.7 percent). This share is down slightly from the 29.0 percent

[2] Full Medicaid benefits require no copayments and include coverage, for prescription drugs, extended nursing home care, and a variety of mental health services not covered by other payers.

[3] When individuals have multiple types of coverage, they are included in each category (e.g., "Medicare" and "Medicaid"). This means that the sum of the coverage statistics reported in Table 3-1 could exceed 100 percent. It also means that the difference between this sum and 100 percent does not correspond to the percent of the population that is uninsured.

[4] Footnote 1 in Chapter 2 provides a detailed explanation of how population estimates and growth rates were constructed for the 2000 SHEA.

of statewide spending in the National Capital Area last year. The shares of statewide spending in other regions in 2000 are also similar to the 1999 shares. Southern Maryland accounts for 5.0 percent of statewide spending; Western Maryland, 7.7 percent; and the Eastern Shore, 7.0 percent.

Table 3-2: Regional Distribution of Maryland's Population and Health Expenditures ($000s), 2000

REGION	2000		
	% OF POPULATION	EXPENDITURES	% OF EXPENDITURES
Maryland Total	**100.0%**	**$19,435,669**	**100.0%**
National Capital	31.6	5,580,146	28.7
Baltimore Metro Area	47.4	10,018,670	51.5
Eastern Shore	7.5	1,361,924	7.0
Southern MD	5.3	980,939	5.0
Western MD	8.2	1,493,990	7.7

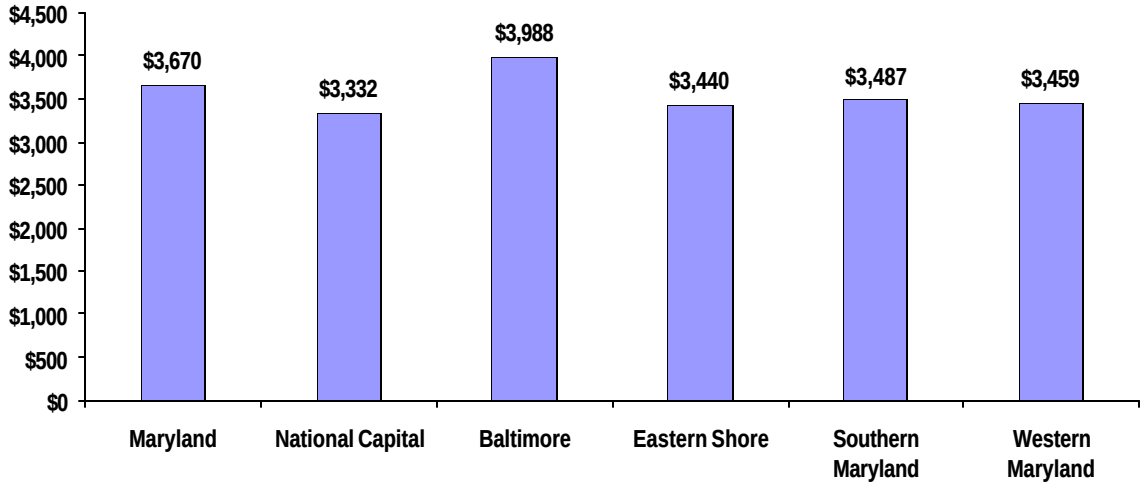
If per capita expenditures were the same for every region, then a region's percentage of the state population would exactly predict its share of state health care spending. **However, significant differences exist between the proportion of the population living in a region and the proportion of state health care expenditures spent on that population, according to Table 3-2.** The greatest relative difference between a region's shares of population and expenditures occurs in the National Capital Area, where the region's share of expenditures (28.7 percent) is about 9 percent *smaller* than its 31.6 percent share of the state's population. Other regions where spending is less than the share of statewide population include Western Maryland, with 7.7 percent of spending and 8.2 percent of the population; the Eastern Shore, which has 7.0 percent of spending compared to 7.5 percent of the population; and Southern Maryland, with 5.0 percent of spending versus 5.3 percent of the population. The Baltimore Metropolitan Area is the only region where the share of spending (51.5 percent) exceeds the share of the state's population (47.4 percent).

The differences between the regional population and spending distributions are reflected in regional variations in per capita spending. As shown in Figure 3-2, Baltimore has the highest average per capita expenditures in the state, $3,988, which is nearly 9 percent above the statewide average of $3,670. At the other extreme, the National Capital Area, with a per capita spending figure of $3,332, is more than 9 percent below the statewide average. However, Western Maryland ($3,459), Southern Maryland ($3,487), and the Eastern Shore ($3,440) also fall below the statewide average, but to a lesser extent.

A number of factors contribute to the Baltimore area's relatively high expenditure rate. One is health status. Baltimore is generally among the worst regions in terms of the various health status measures reported in Table 3-1; incidence rates for the conditions shown in this table generally exceed the statewide average by significant amounts. Baltimore also has relatively high portions of its population enrolled in public programs. However, these factors alone do not explain the high spending levels in Baltimore, since both Western Maryland and the Eastern Shore have similar health status measures and enrollment levels in public programs. What sets Baltimore apart from other

regions of the state and influences its disproportionately high spending levels are the concentration of acute health care resources that are available in that region, measured in terms of both physicians and hospital beds per capita, and higher public reimbursement rates. Original Medicare rates are higher in the Baltimore Metro area than in rural Maryland; Medicaid HealthChoice capitation rates for residents of Baltimore City are higher than for other enrollees.

Figure 3-2: Maryland Per Capita Health Care Expenditures by Region, 2000



UNDERSTANDING REGIONAL HEALTH CARE EXPENDITURES

One of the difficulties in identifying specific factors that affect the regional distribution of health care expenditures is the fact many potential explanatory factors are closely related to each other and tend to move together. Regions of the state with higher incomes, for example, also tend to have higher percentages of the population with private coverage. Additionally, a region often has a mix of factors, some of which promote health care spending while others tend to constrain spending. For example, Baltimore, with high expenditures in relation to the size of its population, has disproportionately large Medicare and Medicaid populations – factors that increase health care spending – but income levels that are below the state average, which tend to constrain spending. The National Capital Area, in contrast, has the highest per capita income in the state along with the second largest portion of the population with private coverage and the largest HMO market penetration. For these reasons, Medicare and Medicaid coverage in this region is relatively small. The low proportions with private coverage keep spending relatively low, although the high per capita income levels tend to increase spending in the area somewhat.

In general, several factors affect the regional allocation of health care expenditures. The distribution of Maryland's population across regions is undoubtedly the single most important factor that explains the regional distribution of spending, as discussed in the previous section. But other factors that affect the expenditure distribution include the relative price of health care services, utilization patterns that are often affected by community preferences, and the mix of health care coverage within the local population.

The Medicare program has developed an approach to measuring regional differences in prices and practice patterns that is based on the Adjusted Average Per Capita Cost (AAPCC) of original Medicare services. The AAPCC is computed at the county level and is used by Medicare to establish capitation rates under the Medicare+Choice program. Since original Medicare benefits are identical across the United States, differences in the AAPCC across counties can be attributed solely to price and per capita utilization differences. While the AAPCC measures Medicare spending levels, which are generally higher than other forms of coverage, the AAPCC can be used to develop a price-use index that can be applied to other payers. This index is shown in Table 3-3.

Table 3-3: Regional Variation in the Price-Use Index Based Upon Medicare AAPCC

REGION	PRICE-USE INDEX
Maryland Total	**1.0000**
National Capital Area	1.0202
Baltimore	1.0461
Eastern Shore	0.8471
Southern Maryland	0.9684
Western Maryland	0.8146

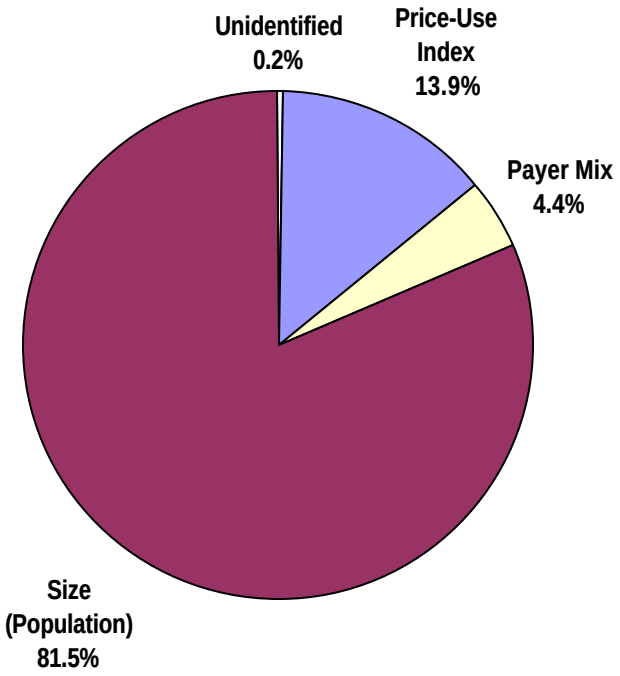
Baltimore has the highest AAPCC in the state, 4.61 percent above the statewide average. The only other region with an AAPCC above the statewide average is the National Capital Area, with an index value of 1.0202. Western Maryland has the lowest AAPCC in the state, nearly 20 percent below the statewide average. The Eastern Shore is 15 percent below the statewide average, while Southern Maryland is only 3 percent below this norm. While the AAPCC is a factor in explaining regional variations in spending, there are differences in spending that are independent of price and utilization patterns, most notably the mix of coverage within the local population. For example, the National Capital Area has the lowest spending levels in Maryland on a per capita basis, even though its AAPCC index is the second highest in the state due in part to its relatively low proportion of residents with public coverage.

The relative importance of these various factors is shown in Figure 3-3.[5] In particular, Figure 3-3 summarizes the results of an analysis designed to answer the question, "How much of the regional variation in total health care expenditures shown in Table 3-2 can be explained by the price-use index described above, population, and payer mix?" For this purpose, a payer mix index was constructed for each region by (1) multiplying the statewide average per capita spending amount for each payer by the number of residents in the region with that type of coverage, (2) adding these products across payers within each region, and (3) dividing by the total resident population in the region. This index used four payer categories: Medicare, Medicaid, Private Coverage, and a residual

[5] The numbers shown in Figure 3-3 represent the contribution of each factor in a variance analysis of regional spending variation. For this analysis, the total sum of squared deviations is measured as the sum across the five regions of the squared deviation between actual spending shares and a benchmark share of one-fifth.

"other" group.[6] In effect, the payer mix index represents that level of total spending that would occur in the region if every resident with a specific type of coverage had an annual spending level exactly equal to the statewide average per capita amount for that payer.

Figure 3-3: Factors Explaining Variations in Regional Health Care Expenditures

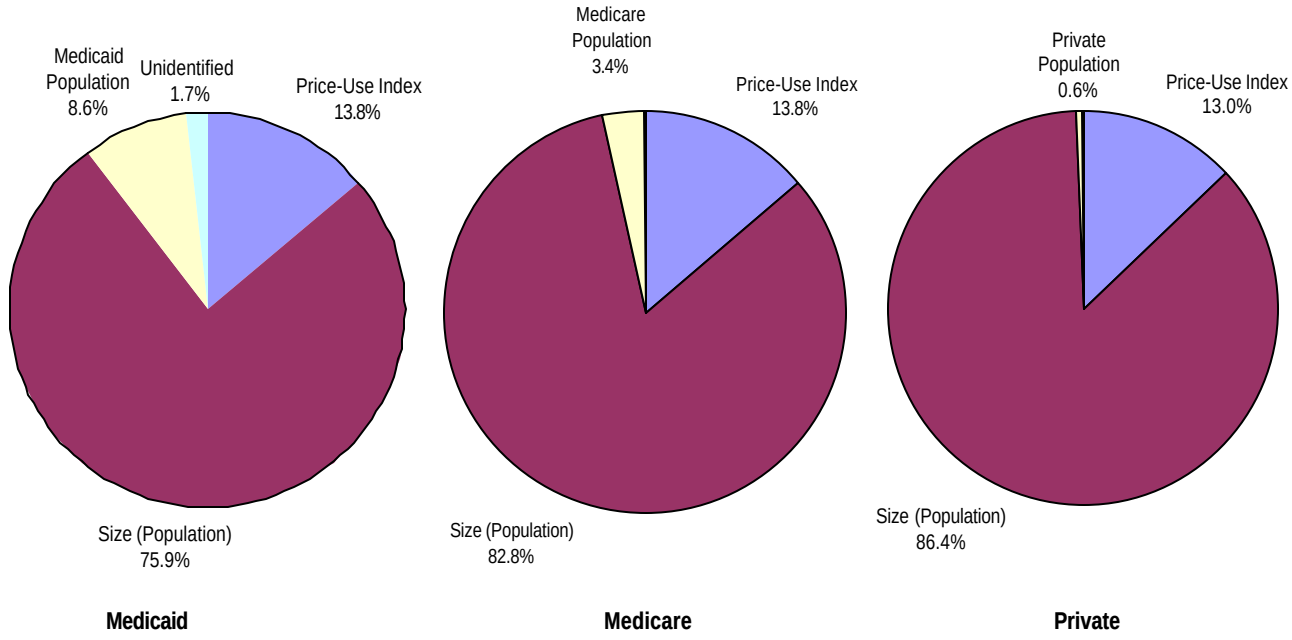


As indicated earlier, the size of a region, measured by its population, is the single most important factor in explaining regional variations in spending. The population distribution shown in Table 3-2 accounts for 81.6 percent of such variation in Maryland (Figure 3-3). Regional variations in prices and utilization patterns, captured by the index of average annual per capita costs in the original Medicare program, explain nearly 14 percent of the variation. Regional differences in payer mix account for another 4.4 percent of the variation in spending. Unidentified factors are associated with the final 0.2 percent. In other words, population, payer-mix, prices, and utilization patterns are sufficient to explain almost all (99.8 percent) of the variation in spending across regions in 2000.

[6] This approach to measuring payer mix does not take into account HMO enrollment in the region. It assigns all residents dually eligible for Medicare and Medicaid to the Medicare category, although it otherwise ignores the possibility of one person having two or more forms of coverage.

The effects of these factors in explaining variations in regional spending differ by payer, as illustrated in Figure 3-4.[7] As expected, regional size – measured by the entire population – is the dominant factor in explaining such variations for all three types of payers. For Medicaid, population explains 75.9 percent of the regional variation. For Medicare, 82.8 percent of the variation is attributable to population, and, for private payers, the figure is 86.4 percent.

Figure 3-4: Factors Explaining Variations in Regional Health Care Expenditures, by Payer, 2000



The AAPCC index of price and utilization differences accounts for an additional 13.8 percent of the regional variation in expenditures for both Medicare and Medicaid, and for slightly less (13.0 percent) of the variation in spending for individuals with private coverage. This index can be interpreted as a measure of regional variation in per capita spending. Its relatively uniform importance across payers in explaining regional variations in spending is remarkable, given differences in how payers actually price services outside of hospital settings, where the state regulates charges for both inpatient and outpatient services. Both Medicare and Medicaid rely on fixed fee schedules for most services provided outside of HMO network arrangements. Private payers may

[7] Each panel of Figure 3-4 is based on an analysis that is similar to that associated with Figure 3-3. The variance in payer-specific spending across regions was first calculated as the sum across regions of the squared deviations of each payer-specific regional share from one-fifth. Each of the three explanatory factors (price-use index, size, and payer-specific population) was then sequentially applied to the regional total sum of squares and the percent of the total variance explained by each factor was then computed. The price-use index was applied first, followed by size as measured by the general population, and then the payer-specific population. In effect, this approach answers the following series of questions for each payer. How much variation is there in spending across regions for this payer? How much of that variation is attributable to differences in prices and utilization patterns measured by the Medicare AAPCC? Given the AAPCC, how much of the residual variation is explained by the total number of people residing in each region? How much additional variation is explained by the number of people residing in each region with this type of coverage? How much variation remains unexplained?

negotiate prices with providers in some instances and pay billed charges in others, while HMOs generally negotiate fees with network providers. These results imply that regional variations in per capita spending are to a considerable extent unrelated to type of payer. One possible explanation is the presence of consistent regional differences in utilization patterns that are influenced more by resource availability and styles of clinical practice than by specific sources of payment or pricing.

On the other hand, different types of payers have different utilization patterns and spending levels. One way to examine the importance of these differences is to consider the extent to which payer-specific variations in regional population are more successful than variations in the total population in explaining the regional distribution of health care spending for individual payers. If every payer had the same pattern of regional variations in per capita spending, then regional variations in total spending would be driven entirely by differences in the size of the general population. When a payer has a different regional pattern of per capita spending than other payers, then the regional distribution of spending for that payer will correspond to the distribution of enrollees for that payer rather than the population at large.

The importance of the payers' regional enrollment patterns in explaining their spending distributions is indicated by the payer-specific population segments in Figure 3-4. Among individual payers, Medicaid is most differentiated from other payers. The difference between the regional distributions of Medicaid beneficiaries and of the general population accounts for 8.6 percent of statewide variation in Medicaid spending. In contrast, deviations between the distribution of the general population and the distribution of private coverage accounts for only 0.6 percent of the regional variation in private spending. Medicare represents an intermediate situation. The distribution of Medicare beneficiaries, compared to the overall distribution of Maryland residents, explains 3.4 percent of the regional variation in health care spending among Medicare beneficiaries.

SUMMARY

Although the size of a region, measured in terms of population, is the most important factor in explaining regional variations in health care spending, significant differences exist between each region's shares of the state population and its share of state health care expenditures. The gap between population and expenditure shares is directly related to regional differences in per capita expenditures. The highest per capita spending in 2000 occurs in Baltimore, which is nearly 9 percent above the statewide average. The lowest per capita spending level—more than 9 percent below the statewide average—occurs in the National Capital Area. Among all regions, Southern Maryland has a per capita expenditure rate that is closest to the 2000 statewide average and therefore exhibits the smallest relative difference between its population and expenditure shares.

There is no simple explanation of why spending varies from one region of the state to another. Health care spending is determined by a complex set of factors that includes demographics, health status, insurance coverage, economic circumstances, and the incidence of specific medical conditions, as well as the availability of resources to provide medical care to local populations. Complicating the analytic task is the fact that many of these factors are closely related in Maryland. Regions of the state with higher incomes, for example, tend to have lower unemployment, higher percentages of the

population with private coverage, and lower per capita spending. In general, however, differences across regions in per capita spending can largely be attributed to variations in prices and utilization patterns, which are measured here by the average annual per capita spending of traditional Medicare beneficiaries. Regardless of payer, such variations explain between 13 percent and 14 percent of the regional variation in spending. Payer mix is another important factor in explaining variations in per capita spending.

REFERENCES FOR CHAPTER 3 TABLE 3-1

1. U.S. Department of Commerce, Census Bureau. Census 2000 Summary File 1, Matrices P13 and PCT12. For the full technical documentation for the Census 2000 Summary File 1 (SF1), which is the source of data in this table, see http://www.census.gov/prod/cen2000/doc/sf1.pdf. Regional estimates derived from Maryland Office of Planning, "2000 Population for Maryland Jurisdictions," October, 2001. Web site: http://www.op.state.md.us./MSDC.

2. The 2000 population data included in this report are taken from the 2000 census conducted by the Bureau of the Census, U.S. Department of Commerce as cited in reference 1. The 1999 population data were estimated by MHCC based on the 2000 census data and population projections developed by the Maryland Office of Planning, Planning Data Services. The methodology was applied at a county level and involved first calculating the average annual rates of population growth that the Maryland Office of Planning had forecast for the period 2000 to 2005. These rates of growth were then used to move backward from 2000 Census estimates of the Maryland county populations to determine the 1999 population figures reported here. Estimated county populations were then aggregated up to regional and state estimates, as necessary.

3. Maryland Department of Health and Mental Hygiene, Division of Health Statistics. *Maryland Vital Statistics 2000 Preliminary Report*. Baltimore, Maryland, 2001. NOTE: Rates reported in Table 3-1 are not age-adjusted.

4. Maryland Department of Health and Mental Hygiene, Division of Health Statistics. *Maryland Vital Statistics Annual Report 1999*. Baltimore, Maryland, 2000.

5. The average of quarterly counts of total Medicare beneficiaries, included in managed care reports publicly available from the Centers for Medicare and Medicaid Services. "Managed Care Market Penetration - Quarterly State/County Data Files" Web site: http://www.hcfa.gov/medicare/mgd-rept.htm.

6. Medicaid enrollment counts for those with full Medicaid coverage (including those who are also covered by either Medicare or private insurance). Data sources: (1) Medicaid enrollment counts (excluding groups with limited coverage) generated by the Center for Health Program Development and Management, University of Maryland-Baltimore County at the request of the Maryland Department of Health and Mental Hygiene, Office of Planning Development, and Finance.

7. **State:** U.S. Department of Commerce, Economic and Statistics Administration, Bureau of Economic Analysis. Regional Accounts Data, State Personal Income. Web site: http://www.bea.doc.gov/bea/regional/spi/ **Counties (Regions):** Maryland Office of Planning, Research and State Data Center (Bureau of Economic Analysis data). Web site: http://www.mdp.state.md.us/msdc/bea/ca99/annual.htm.

8. **State:** Maryland Department of Labor, Licensing, and Registration. "Maryland Civilian Labor Force, Employment and Unemployment by Place of Residence—1978–2000." Web site: http://www.dllr.state.md.us/lmi/78.htm. **Counties (Regions):** Maryland Department of Labor, Licensing, and Regulation. "Employment, Unemployment and Unemployment Rate By Place of Residence (LAUS).Web site: http://www.dllr.state.md.us/lmi/laus/lausmain.htm.

9. MHCC calculations based on (1) population estimates from citation no. 1 and no. 2, (2) percent privately insured from the *Current Population Survey* (U.S. Department of Commerce, Census Bureau) 1999-2000, adjusted downward to reflect average monthly enrollment using information on the duration of private coverage for those residing in the Northeast (as a proxy for Maryland residents), *Medical Expenditure Panel Survey* (Agency for Healthcare Research and Quality), 1997, and distributed among the regions using information on regional insurance coverage in non-elderly adults from the *Behavioral Risk Factor Surveillance Survey* (Centers for Disease Control & Prevention) 1999, 2000, in conjunction with information on Medicare and Medicaid coverage in non-elderly adults in each region, and (3) number enrolled in commercial HMOs from *The InterStudy County Surveyor Data* (as of January 1), 1999 and 2000, for Maryland residents.

10. MHCC Inventory of Licensed Comprehensive Care Beds, June, 2000.

11. MHCC Report on the Implementation of Acute Care Hospital Licensure Regulations - Fact Sheet, October, 2000.

12. MHCC calculations based on U.S. Department of Health and Human Services, Health Resources and Services Administration, Bureau of Health Professions, *Area Resource File: February 2000 Release.* Data represents nonfederal physicians in patient care per 100,000 population based on (1) American Medical Association Physician Masterfiles, (2) American Osteopathic Association data, and (3) Bureau of the Census population estimates; all contained in the Area Resource File.

APPENDIX

SHEA TECHNICAL NOTES

The state health expenditure accounts (SHEA) present information based on the health care expenditures of Maryland residents and not on expenditures associated with Maryland providers. This is in keeping with the 1993 health care reform legislation enacted by the Maryland General Assembly that focuses on the health care market faced by Maryland's residents rather than on a market defined by provider location. The Maryland Health Care Commission (MHCC) relies heavily on existing program and health care administrative data to construct the accounts. This approach enables MHCC to make use of the most consistent data available (generally audited) and minimizes redundant data collection and the associated expense. The information (as noted in explanations that follow) is derived principally from government sources. These consist of several state agencies, including the Maryland Insurance Administration (MIA), numerous administrations under the Department of Health and Mental Hygiene (DHMH), and the Department of Corrections (DOC). Federal agencies, which include the Centers for Medicare and Medicaid Services (CMS), the Office of Personnel Management (OPM), and the Bureau of the Census, provide supporting information on Medicare enrollment and expenditures, data on health insurance coverage in the United States, and estimates of federal employee enrollment in health plans.

Although the SHEA is modeled after the National Health Expenditure (NHE) accounts, the expenditures captured in the state accounts do not reflect the universe of expenditures included in the NHE. Expenses for research, facility construction, government public health activities, and industry health services are not included in the state accounts. Also, the source of funds for state accounts differs from those used in the NHE. State accounts (1) separate NHE's "private insurance" into "insurers and self-funded plans" and "HMOs," (2) omit from state and local government expenditures both hospital subsidies and workers compensation, and (3) exclude nonpatient revenues and philanthropy. The differences reflect the state's primary focus on how ***personal health care expenditures***—spending on health care services provided to patients—differ from year to year and by payer source and also reflect a reliance on existing data sources.

Because information on spending by Maryland residents for various services is limited, the figures reported in the SHEA often represent estimates rather than direct measurements. This is especially true for residents with private coverage, whose claims are not processed by government sources. Estimates for services to Maryland residents reimbursed by out-of-state payers are especially difficult to derive, because these data are not captured in state sources. Such insurance arrangements occur, for example, when Maryland residents work for out-of-state firms and are covered by insurance written at the corporate headquarters. Services provided to state residents by out-of-state providers can also be difficult to estimate for the same reason. Such services occur most often for residents of counties surrounding the District of Columbia (DC), parts of northern Maryland adjacent to Pennsylvania and Delaware, and areas of Western Maryland bordering West Virginia. For these reasons, it is possible that the SHEA underestimates spending by Maryland residents, especially in "border counties." Estimated patient liabilities are derived from assumptions used to generate estimated out-of-pocket (OOP) spending for the NHE accounts.

It is not possible to allocate Medicare and Medicaid HMO capitation payments directly to specific provider and service categories because of limitations on the information available from and on the financial systems that support these government payers. Both Medicare and Medicaid are attempting to improve their information systems, which may enhance the information available for future reporting. For this report, the Medicare allocation across services was based on aggregate information provided by the CMS Office of the Actuary. The allocation of Medicaid HealthChoice premiums relied on estimated distributions associated with private HMO enrollees.

These caveats notwithstanding, the Commission believes that the methodology developed for the state health expenditure accounts represents a robust, cost-effective and sustainable strategy for monitoring trends in health care expenditures across the state and for providing useful answers to important policy questions relating to such trends.

METHODS AND SOURCES FOR EACH PAYER CATEGORY

The following section describes the data sources and methods used to develop Maryland's health expenditure accounts. Each data source is presented separately in the column order in which it appears on the health expenditure account tables.

Original Medicare and Medicare+Choice

CMS provided Maryland-specific original Medicare claims for calendar year 2000, with the exception of outpatient hospital facility claims.[1] Expenditures were summarized by aggregating payments for settled claims from the following claims files: Inpatient, Physician Supplier, Durable Medical Equipment, Skilled Nursing Facilities, Home Health, and Hospice. These expenditures were distributed to Maryland regions based on the regional distribution of the overall Medicare population and on regional differences in per capita spending by beneficiaries enrolled in the original Medicare program. (The latter are used to determine Medicare+Choice capitation rates.) Administrative costs for Medicare indemnity were estimated by applying the national Medicare administrative proportion from the NHE report for 2000 to all Medicare expenditures (indemnity and managed care) reported in the SHEA. Medicare enrollment figures were estimated by averaging CMS quarterly Managed Care Market Penetration Reports.

Estimated expenditures under the original Medicare program were allocated across service categories directly from settled claims wherever possible. SHEA rows where direct allocation was possible include: inpatient hospital (short- and long-stay, hospice), physician (all medical specialties), other professional (nonphysician specialties, ambulatory surgical centers [ASC]), home health, skilled nursing facilities (SNF), and other (durable medical equipment [DME], supplies). Because outpatient hospital claims are not available for 2000, the outpatient hospital spending was estimated from provider submissions to the Maryland Health Services Cost Review Commission (HSCRC). No prescription drug data are reported here.

Medicare HMO expenditures were developed from a combination of CMS sources, including Managed Care Market Penetration Reports and Medicare Managed Care Contract Reports. A cost per enrollee by plan type was estimated using reported national expenditures and enrollment by plan type in the Contract Reports. These per capita costs were applied to counts of Maryland Medicare managed care beneficiaries to estimate Medicare managed care expenditures in Maryland. The expenditure estimate was distributed to Maryland regions based on the regional distribution of the Medicare managed care population and regional cost differentials captured in Medicare+Choice capitation rates. Administrative costs were estimated by averaging the administrative proportions from private HMOs in Maryland that received Medicare capitation payments from CMS in 2000. Medicare managed care enrollment figures were derived by averaging Maryland data from the quarterly Managed Care Market Penetration Reports and data provided by Maryland's Program of All Inclusive Care for the Elderly (PACE) health plan. Adjustments were made to some county level data to correct for a limited amount of data censoring by CMS to protect confidentiality and for address inconsistencies in Medicare enrollment files. These adjustments were more pronounced in regions with sparse Medicare+Choice enrollment.

[1] Outpatient hospital claims for 2000 have not been publicly released by CMS. Such data may become available in the future and, if they are, they will be incorporated into future versions of the SHEA.

The allocation of Medicare+Choice spending across categories of service was based on statistics created by the CMS Office of the Actuary for the 1999 NHE accounts. Because these statistics did not distinguish between inpatient and outpatient hospital services, this allocation was estimated using information from the Maryland HSCRC.

Traditional Medicaid and HealthChoice

All expenditure and enrollment data related to the Medicaid programs were provided by Maryland's Department of Health and Mental Hygiene (DHMH). Fiscal year Medicaid management information system (MMIS) claims data for 2000 and 2001 were averaged to develop estimates of Medicaid indemnity expenditures for calendar year 2000. MMIS data were reported by county, so regional Medicaid indemnity expenditures were calculated from county-level data. Administrative costs for the Medicaid indemnity program were also provided by DHMH.

Medicaid indemnity categories of service comprising the SHEA row elements were defined directly from data received by DHMH. Inpatient hospital services include acute care, rehabilitation, specific intermediate care, and residential treatment for addictions. Outpatient hospital services include acute care, rehabilitation, and psychiatric day care. Physician services include all medical specialty services, except dental. Other professional services include nonphysician specialties, dental, and ambulance services. Home health care includes waivers, medical and personal day care, therapy, and private duty nursing care. Nursing home includes long-term care, nonaddiction–related intermediate care, and SNF. Other services include DME and supplies. Prescription drug data were directly obtained from DHMH.

Medicaid managed care payments were taken directly from DHMH data and reflect capitation payments made to all managed care organizations (MCOs) and HMOs in 2000. Capitation payments are rate determined according to the risk category of the enrollee and do not differ by plan type. Medicaid managed care spending was allocated to regions based on the county distribution of these expenditures detailed in MMIS reports. Like other capitation payments and insurance premiums, they can be divided into two parts: benefits paid and administrative expenses. Administrative costs were estimated by averaging the administrative proportions from private HMOs that received Medicaid managed care payments from CMS in 2000. Aggregate benefits paid were allocated across categories of service using expenditure shares calculated for the private HMO population (see below).

Other Government

Total expenditures represent seven distinct government categories: DOC, CHAMPUS, Veteran's Administration (VA), state hospitals, DHMH programs (including federal grants to DHMH programs), the AIDS Insurance Assistance Program, and the Maryland Pharmacy Assistance Program. The DOC provided overall payment amounts made in a specific fiscal year. Expenditures were allocated to SHEA rows based on the private indemnity distribution, with some proportional adjustments to reflect service restrictions in the DOC policy. Expenditures were distributed to three regions using the distribution of the state jail population as reported through the Department of Public Safety. CHAMPUS data on overall expenditures were distributed to service categories using proprietary indemnity claims data obtained for this project. CHAMPUS expenditures were distributed to regions using the distribution of the overall state population. The VA provided state-level expenditure data by service category. Expenditures were distributed to regions based on the distribution of the VA population in the state. Maryland state budget documents were used to develop expenditures for state hospitals (inpatient/outpatient psychiatric, chronic care, nursing home, and intermediate care facilities-mental retardation [ICF-MR]), DHMH programs (including local health department contributions to these programs), and federal grants supporting DHMH programs. These expenditures were distributed to regions using the distribution of the Maryland Medicaid population. Expenditures for two programs funded entirely with state funds—the Maryland Pharmacy Assistance Program and the AIDS

Insurance Assistance Program—were developed from data obtained from DHMH. Administrative expenditures were calculated for the entire Other Government column using the administrative proportion for state and local funds from CMS's 1999 NHE accounts.

Private Sector: Insurers And Self-Insured

Private indemnity direct losses incurred by Maryland Life and Health, Property and Casualty, and non-profit companies were derived from annual filings submitted to the MIA. These expenditures formed the base against which additional adjustments were made for (1) expenditures by companies that are self-insured and (2) expenditures for Maryland residents with coverage under insurance contracts written out-of-state and therefore not included in Maryland group contracts. Estimated administrative costs were added based on information that insurers reported to the MIA. Once total expenditures were estimated, the proprietary indemnity and self-insured claims data obtained for this project were used to allocate total expenditures to service categories, and the distribution of the state's privately insured, non-HMO population was used to distribute expenditures to regions. Privately insured enrollment was calculated from the CPS, based on the proportion of non-elderly residents with private insurance coverage. The CPS estimates were then adjusted with information from the MEPS on the usual duration of lapses in private coverage. The distribution of the privately insured across regions in Maryland was estimated using Maryland BRFSS data.

Private Sector: HMO

Private-sector HMO expenditures were developed by aggregating data from the 2000 annual statements submitted by Maryland HMOs to the MIA. This expenditure estimate was then adjusted upward to account for (1) expenditures for services, (such as vision and dental care) that are often "carved out" of HMO benefits by employers who provide these benefits to their employees under a separate arrangement and (2) expenditures for Maryland residents whose coverage is provided under out-of-state auspices and is therefore not included in Maryland group contracts. Neither type of spending is captured directly by official HMO filings with the MIA. Aggregate expenditures were then distributed to regions based on InterStudy data and plan enrollment information. A large set of proprietary HMO claims data obtained for this project were used to allocate total expenditures to service categories on a region-specific basis.

Out-of-Pocket

The ratio of out-of-pocket (OOP) to total expenditures for specific services categories in Maryland was assumed to be the same as what is reported in the NHE accounts for personal health expenditures. These proportions were applied to total regional expenditures (calculated as the sum of the first seven columns of the SHEA, by region) to develop estimates of total OOP costs.